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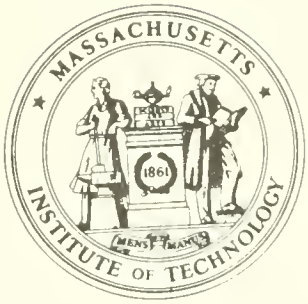

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WORKING PAPER
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WORK GROUP STRUCTURE SERIES

Edited by

Charles H. Savage

THE WORLD OF THE INDUSTRIAL WORKER: PERU

by

Eduardo Soler

April 1966 #185-66

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This series of studies was sponsored by the Inter-American Program in Civil Engineering, Massachusetts Institute of Technology, and supported by the Agency for International Development, U.S. Department of State (DSR 9865), the Carnegie Corporation (DSR 9597) and the Dow Chemical Company (DSR 9651). Dr. Soler is Social Anthropologist with the W. R. Grace Company in Lima, Peru. Dr. Savage is professor of management at Boston College and visiting professor at the Sloan School of Management, M.I.T. The study was translated by Carlos Fernando Romero and Mrs. Brenda Holmes of the Sloan School.

Every process of change affects the rhythm of existing life in a very special way because of the rationalization of work systems that is inherent to industrialization. The worker in the developing nations is subjected to an endless series of changes. "The continuous changes in science, technology, and methods of production that accompany industrialization activate a series of decisive consequences for the workers, the managers, the state, and their reciprocal systems of interaction."[2] From this emanates certain behavior which is the focus of this study. This will be done by a detailed analysis of a small work group in a factory located in the "Gran Lima," the capital of Peru.

Through brief questionnaires, observations and interviews with the managers, labor leaders, and factory workers in a factory of 190 men, the study was carried out in three months; from March to May of 1965. A work group of 15 men was selected for special attention. The group was composed of skilled, semi-skilled and unskilled laborers, and seemed to be the most representative of the various social and occupational stratum encountered. Its members had origins from rural and urban societies, educational levels from incompleted grade school to completed high school. They worked under a variety of wage systems, which included daily wage, overtime and production incentive. Other advantages in studying this group were its location, which favored the easy observation of the interpersonal interaction, and the acceptance by the group members to the author and the idea of being studied.

To better understand the social system of the selected group, the study will include a picture of the physical environment of the industry being studied, the managerial and labor organization, the social and cultural backgrounds of the individuals involved, and, especially, the classical elements of their workplace, behavior, activities, interactions, and sentiments.

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[1]The author expresses special recognition to Dr. Charles H. Savage, Jr., director of the research project, for his encouragement and assistance. This work is an extension of another study carried out in Paramonga, Peru. Both studies enjoyed the collaboration of W. R. Grace and Co., where the author serves as social anthropologist.

[2]Kerr, Dunlop, Harbison, Myers, Industrialism and Industrial Man; Buenos Aires, Ed. Eudeba, 1963.

[3]The conceptual scheme developed by George C. Homans will be used. Homans considers a work group as a socially-interrelated system with independent internal and external elements. (See: Human Groups; Harcourt, Brace and World, Inc., 1950.)

Our interest centered on the diagnosis of the behavior of the worker in the sense that "the problem proposed by 'work' is, above all, a problem of attraction and interaction of groups and individuals."[4] It is assumed that a better understanding of the mechanics of worker behavior on the part of management and labor, together with the reorientation that this might imply, will favor an increase in productivity, as the result of worker satisfaction and the motivation that arises from a climate of mutual understanding.

The study summarized here was carried out under the auspices of the Inter-American Program of Civil Engineering at M.I.T., which has been giving attention to a better comprehension of the problems of the physical and social sciences common to the Americas. This activity has contributed a theme which offers both educational and technical values, the investigation being the starting point.[5]

It would have been impossible to carry out the present study without the generous cooperation of the management group, the union leadership, and particularly, the members of the group selected for study. The author expresses his gratitude and recognition to all of them.

The Process of Industrialization in Peru

This theme is mentioned only as a reference for the present study. For this reason we will limit ourselves to only a brief summary of the country's progress as background for the changing process of economic development and the transitional process often called "industrialization." It is understood that the "process of industrialization refers to a certain level of technology which is more advanced than the level the society previously knew. In addition, the /which accompanies the scientific revolution industrialization process produces continuous change aimed at faster methods of production, both in the products and in the technology."[6]

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[4] Antonio Pinilla, Psychology of Attitudes and Working Relations; Ed. Juan M. Baca and P.L. Villaneuva; Lima, Peru 1956.

[5] Eduardo Soler, Technological Impact in an Industrial Community in Transition; (Peru) Inter-American Program in Civil Engineering Research Report, M.I.T., Cambridge, Mass., 1965.

[6] Kerr, Dunlop, Harbison, Myers; op. cit.

This fact alters the individual's complete life span, the family, and the society in different degrees of adjustment and maladjustment according to the rhythm of change introduced. Let us look at this phenomena in its historic perspective.

Pre-Colombian Peru, an agrarian society based on community spirit, reached a high level of social and economic organization, and was already in possession of advanced textile, ceramics, and pottery industries, now greatly admired in museums. Such advancement was obtained in the Peru of the Incas, due to the administrative system which "was exclusively based on the consideration that the first thing to be considered in a society was the economic production."[7] They had not reached the degree of specialization which would have annulled human creativity and initiative. It has been pointed out that in the act of productive work, all parts of the human body act as the pieces of a total mechanism, producing fatigue due to monotony. With the ancestral Peruvians, the "fiestas" constituted a breaking point in the discipline of working. This essential rest favored their emotional equilibrium.

Four centuries of Spanish colonialism constituted an interruption in the industrial and agricultural development. The conquerors, using the natives as a feudal instrument of labor, saw the exploitation of the mines as the only productive venture. That is, "the Spaniard did not have the colonialist conditions of the Anglo-Saxon. The creation of the United States of America was the work of the pioneer, the puritan and the Jew, whose spirits were possessed by a powerful will and who were oriented toward practical and useful ends. In Peru, however, a different race was established, one which was indolent, full of dreams, and not well suited for industrial and capitalistic enterprises."[8] The collective organization of the Indian was cut off by the medieval spirit of the "conquistadores" and their system of "encomiendas" (distribution of land and men) which set up a landed aristocracy. "Through the years of their independence and their Republic, these enlarged properties remained in the hands of a limited number of capitalists whose economic power presently dominates industry, banking, and commerce."[9]

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[7]Luis E. Valcarcel, Ethno-History of Old Peru; Universidad Nacional Mayor de San Marcos, Lima, Peru, 1959.

[8]José Carlos Mariategui, "Seven Essays on the Interpretation of the Peruvian Reality;" Amauta Library, Lima, Peru, 1952.

[9]Eduardo Soler, op. cit.

The so-called "modern industry," which encompasses the most complex systems of productivity, appeared 25 years after their emancipation. The textile industry started in 1848 and was followed by the tanneries, pharmaceutical laboratories, breweries, etc., all of which were located in Lima. This was "due to the presence of a concentrated group of consumers, a large labor force, contact with the government, repair parts, raw materials, and many other advantages."[10] Nevertheless, the industrial development was primitive and slow because of the limited energy sources and the absence of the entrepreneurial spirit of the patron whose property was handled by a resident administrator. The small landowners of this agricultural economy were forced to either enlarge their landholdings or defend their property from those more powerful. In a recent novel by Arguedas one can read of this situation in a confession of a "mestizo." "I have raised you out of these times and am leaving you prepared. You are a good 'cholo,' don't let the aristocratic neighbor cheat you and don't let the 'indio' take advantage of you. To one and the other I have legally taken away their lands. There are only two defenses: the money to 'buy' authority and the 'revolver' to defend what you've won."[11]

We cannot comment too much about this confession which represents one reason for the present mistrust of the "peruano receloso"[12] (distrustful Peruvian), but, to complete the picture, the mestizo later adds: "You have seen the Colt (revolver). My father used it to obtain his land. He got it legally from the aristocracy, especially from people like you who no longer live in their 'haciendas.' He discovered false documents and won many suits in court for the communities. Then, may God forgive me, he bought the land from those communities for very little money, frightening them, pushing them, and even kicking a few 'Mayors.' With his hand and his heart he made everything . . ."[13]

This panorama of the illicit appropriations of land, with the complicity of the authorities, shadows a great portion of the Republican era.

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[10] Antonio Tarnawiecki, "Manufacturing Industry Playing a Principal Role in Development," from Twelve Contributions to the Task of Peruvian Development; Accion Para el Desarrollo, Lima, Peru, 1963.

[11] Jose M. Arguedas, "All the Bloods;" Lozada, S.A., Buenos Aires, Argentina, 1964.

[12] William F. Whyte, "Values and the Economic Growth of Peru;" Senati, Lima, Peru, 1963.

[13] Jose M. Arguedas, op. cit.

Labor legislation took many years before it reached the typical "peon" of the large "haciendas." The personal story of one of the men serves as an illustration.

> When I started working in the 'Valle del Santa,' during Leguia's time, we used to get 10 cents a day. The "coporales" (foremen) rode their horses over our noses and made us work by using a whip. There was no one to complain to. If anyone protested, they were fired 'ipso facto,' with no social or fringe benefits.
>
> If the worker said that he was feeling sick, he was sent to the infirmary to be given a laxative: a big glass of sodium sulfate. With this nobody wanted to get sick again.

Nevertheless, labor legislation began to consider greater social benefits for the common laborer; answering the protests and pressures of the labor organizations. These social successes, particularly for the worker of the land, did not occur along with technological change. Commenting on this, one of the workers said:

> The Fathers of the Nation (Congress representatives) should collaborate by enacting laws which tie with reality and couple with the processes of the industries; otherwise, the industrialization, with its advanced techniques, will eat us alive due to our inadequate labor laws. It is very important to me that men are satisfied at work, because in that way they are able to produce more. When a man is not satisfied, resentment begins, and work is done without any motivation . . .

The industrialization process in Peru was accelerated by World War II. The War increased the importance of foreign trade, including articles for consumption along with machinery and tools which their development required. This fact had a tremendous effect on Peruvian life - the industrial expansion brought technological changes, and labor changes - adaptation of new personnel management. Accompanying this industrial growth was the development of improved communications - radio, telephone, movies, press - along with roads for motorized transportation. This in turn accelerated the geographical, social and occupational mobility of the people, particularly the young people, who emigrated from their rural "Andean" world to the "haciendas" and coastal cities - especially Lima - beginning the formation of the so-called "cinturores de Miseria" (misery belts). "Thus," Matos Mar points out, "the national migratory process became organized in the complex form of a circulatory need that finally terminated in one great central reservoir - Lima." This metropolitan area acquired such a great volume that it caused an acute subordination on the whole life of the country. It hindered the autonomous existence of the different regions and

the organization of the national territory."[14] The migrants, drawn as a magnet to the city which was the seat of the central government and the economic, social, and cultural axis of Peru, went through a process of adjustment in their family and personal lives. Some were able to adjust themselves; others were still involved in their "country manners" and vegetated in an environment where they found only frustration. At this point, the process of "ruralization of the urban culture" began to develop through the provincial associations which constituted an intercultural bridge and adapted the "provinciano" to urban life. With this comes the paradoxical problem of people without skills in an industrial process constantly demanding more and more skillful laborers. It has been pointed out that the scarcity of qualified workers is due to a high illiteracy rate, a lack of training for manual careers, and particularly to the cultural prejudices that the Peruvian society has established against manual labor.

With this background we are now able to examine the industrial center selected for this study. The factory is a dependent of W. R. Grace and Co. This international company, operating in several Latin American countries, the United States, Canada, Europe and Australia, was established in Peru. In 1854 a young Irishman, William Rusell Grace, associated himself with Bryce and Co. (Peru), the supplier of materials for ships that transported "guano" from the islands and later sulpher products from the southern part of the country. W. R. Grace and Co. originated at this point and grew into an enterprise of international industries, banks, ship builders, and ship owners. They were the pioneers of Latin American aviation and advanced the field of industrial chemistry, the operations of which are controlled from the "main office" in New York. The central office of Grace is located in Lima, and their operations are large and varied. These include textiles, sugar refineries and other products derived from sugar cane such as rum and alcohol, chemicals, paints, distribution of national and imported products in the local market, naval and air transportation, etc. The paper industry has become another important activity of Grace and Co. The paper used in the manufacturing of boxes and bags is manufactured in Paramonga, where, for the first time, the remains of pressed sugar cane (bagaso) were used as raw materials. The industrial center for our study is called "Fabrica de Cajas y Bolsas" (Factory of Boxes and Bags).[15]

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[14] Jose Matos Mar, Diagnostico del Peru; National Museum Magazine, Vol. XXXIII, Lima, Peru, 1963.

[15] "The Grace Sentinel," September - October, 1958.
E.W. Burgess and F.H. Harbison, "The Case Study of Casa Grace in Peru," National Planning Association, 1954.

A Metropolitan Manufacturing Industry

The metropolitan area of Lima, the capital of Peru, contains 67% of the manufacturing industries in Peru. The manufacturing center of our study is one of these industries and it is operated under the name of "Fabrica de Cajas y Bolsas." This industry started operations 25 years ago by converting paper bobbins supplied by the Paper Industry of Paramonga into boxes and bags. It has been using the remains of pressed sugar cane as raw material since it's installation at the beginning of World War II.

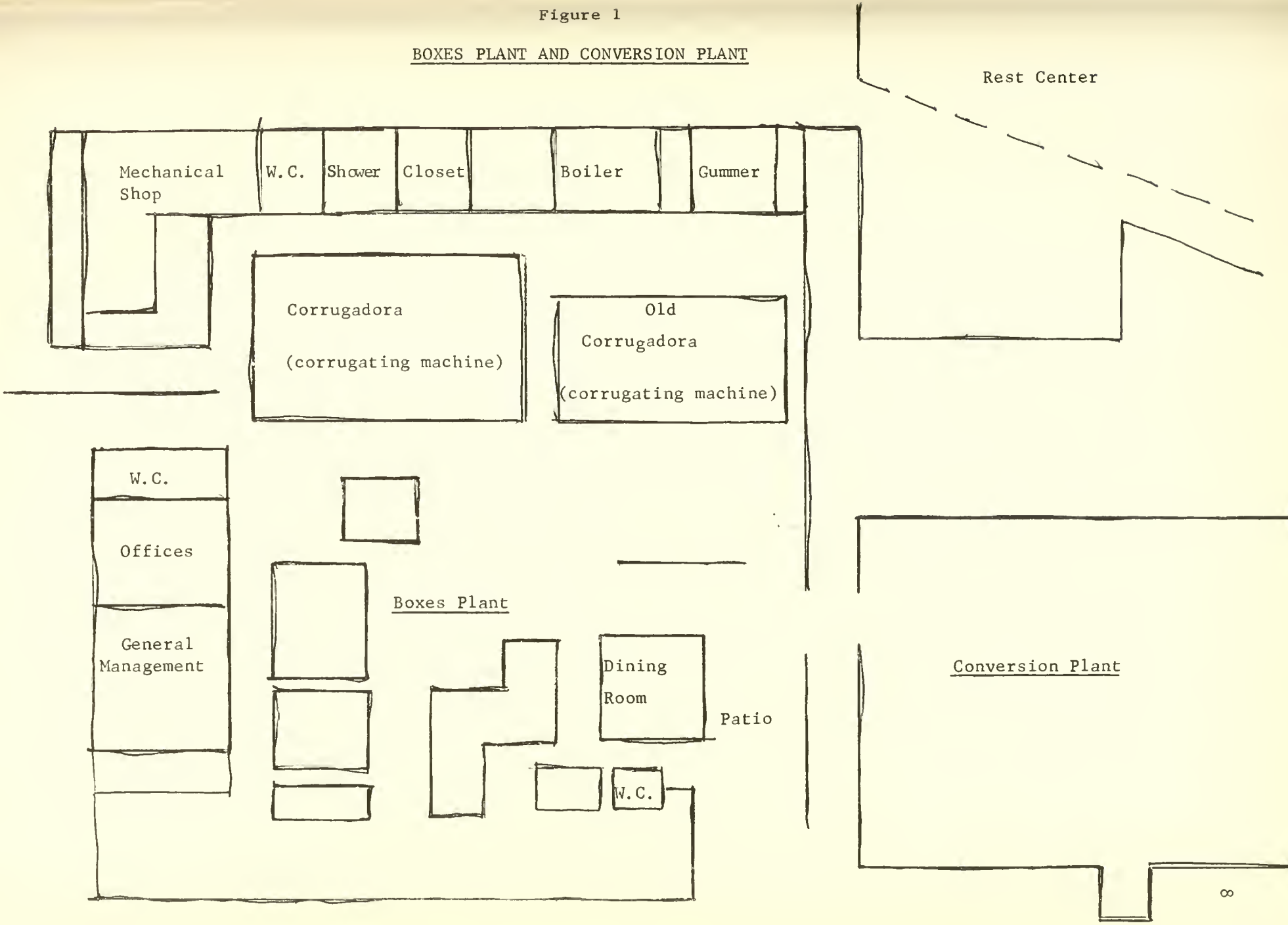
The operating mechanisms of the processing plant were prepared in anticipation of a need for a local paper industry. In 1937 a modest plant was installed and it began working with paper imported from Germany, Norway, Canada and the United States. During the war, which changed almost every part of economic life in the country, the supply of imported paper stopped. This was due to the difficulties of international transportation and to the fact that the production of weapons became the primary interest of the countries involved. Therefore the production of paper in Paramonga was indirectly accelerated in order to satisfy the local demand. By the same token, the German investors in Peru, trying to avoid government intervention, sold their holdings. The factory of our study was bought by W. R. Grace and Co. from the Germans in 1941.

This industry, presently having box and conversion plants, operated up until last year with only a box plant. This plant has four processes: the first is the "Corrugadora," or "main machine," which starts processing the paper bobbins by transforming them into carton sheets which are used to make boxes of all types and sizes; the second is the printing section, where the labels of the different customers are printed; the third is the stapling and gumming (engraupadoras y engomadoras) machine, where the carton sheets are made into boxes, some stapled and others gummed together, according to the customers preference; and fourth is the "casilleros" section where the "tops" for the various boxes are prepared. The conversion plant, which has been in operation for one year, is divided into two sections - tubes and bags. (See Figure 1.)

The box plant is the largest of the two plants and has a labor force of 144 men. The conversion plant employs only 51 workers, most of which are

Figure 1

BOXES PLANT AND CONVERSION PLANT



new employees. The plants are located in two separate buildings on the same property and are physically and socially separated. The supervisors and subordinates of both plants have created their own groups and call themselves and each other "the ones over here" (los de acá) and "the ones over there" (los de allá). Apparently this separation does not affect the industry itself since each plant has its own independent production activities. Personnel interactions, however, are damaged by these separatist tendencies but, at the same time, these tendencies tend to promote competition, as we shall see later.

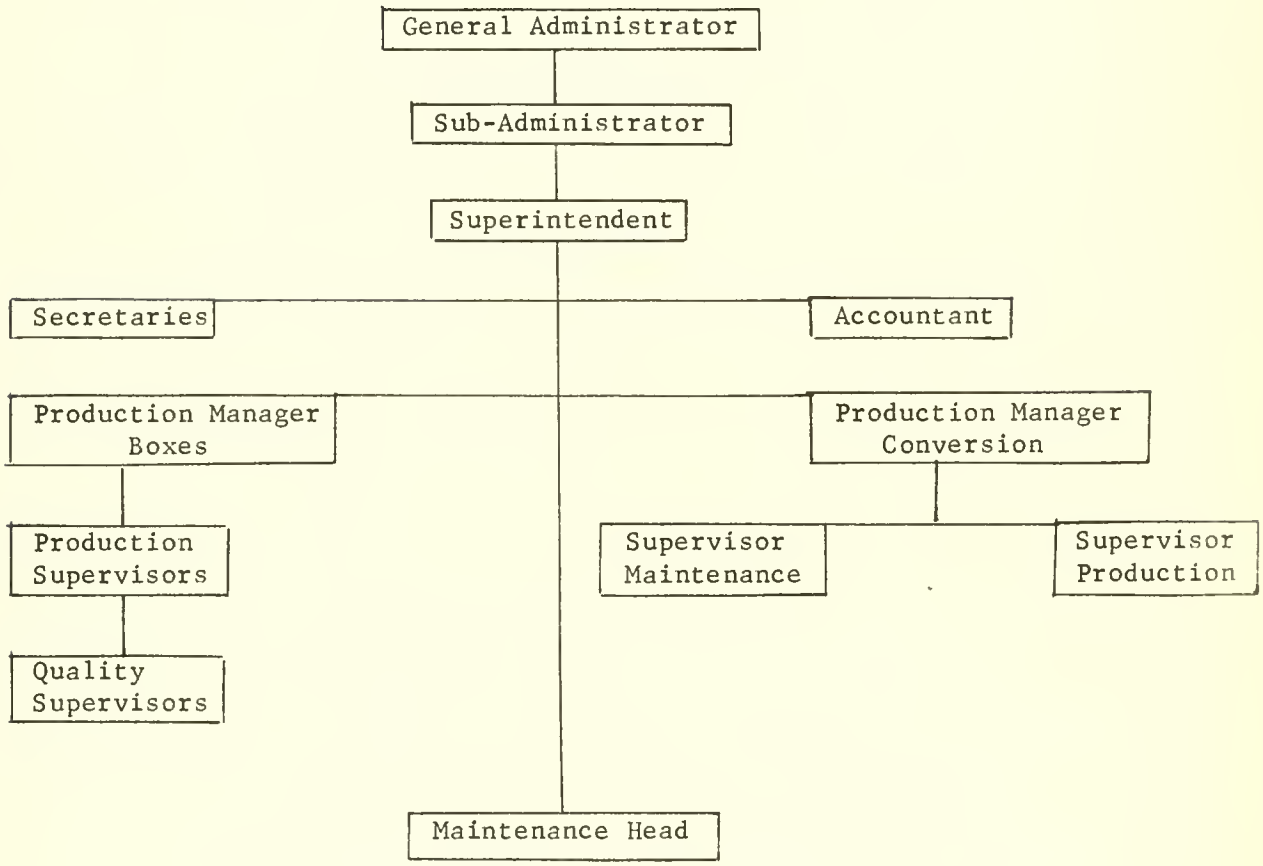
The administrative organization of the factory is of a vertical or pyramid nature. At the top is the General Administrator, then the Sub-Administrator, Superintendent, Production Managers, Production Supervisors, and Quality Supervisors in descending order. (See Figure 2.) The administrative group, called "chief employees," differs from the "auxiliary employees" in the level of their authority and responsibility. Among the "chief employees" (empleados jefes) there are three well-defined sub-groups: the first, made up of the Administrator, Sub-Administrator, Superintendent, and Production Managers, is called "staff members;" the second, composed of Production Supervisors, is called "line managers"or"executive members;" and the third is the Quality Supervisors, whose occupation level is the same as the Formen's because of the similarity of their functions and their authority over the same types of subordinates.

The foremen are considered "skilled workers" not so much for the special skill which they may have, but because of their years of experience and their degree of responsibility.

There are three main levels which qualify the common laborer: "simple workers," workers who are illiterate or who have an incomplete primary education; "semi-skilled workers," workers with complete primary education or with incomplete primary education but with some years of experience in a particular task; and, "skilled workers" or "maestros," workers who have an incomplete or complete primary education or an incomplete secondary education and who have the technical preparation that makes them specialists in a particular industrial field, i.e., mechanics, electricians, machine operators, boiler specialists, etc.

Figure 2

ADMINISTRATIVE ORGANIZATION OF THE FACTORY OF BOXES AND BAGS



The percentage of each level is given below:

Levels of Qualification	%
Simple Workers	75%
Semi-Skilled Workers	10%
Skilled Workers	15%

Among the "simple workers" there are two groups which differ in responsibilities and wages. "The new ones" (los nuevos), those who have not completed one whole year of service and who have a status of "volantes," are rotated through different auxiliary activities, according to the labor needs of the particular sections, and observe how an individual adapts to one task. The second group of "simple workers" have "puestos fijos" (fixed locations) which are obtained by ability and longer time of service.

The functions and responsibilities of the administrators and laborers can be understood not through their defined positions but through their customs "costumbres" which have allowed them to adjust to the changing conditions of the industrial process, everyone according to his own ability and initiative. The problems of duplication of effort, interpretation of function, and other administrative policies, were always solved by the "chief" or head, who, in the early years of industry, absorbed, in addition to his own functions, many of those now delegated to subordinates.

This paternalism can be found in both national and foreign officials as a conscious and unconscious mistrust which is nurtered by injured pride (amor propio) when decisions are made by subordinates without previous consultation. To illustrate this point let us quote one of the workers:

> In our organization, it is very traditional to accept with closed eyes anything that comes from above (central offices in New York and Lima). Even if the instructions are not adaptable to our industrial development. The problem is that management ties itself to the old systems of administration, that is, not allowing anything to be done without their consent.....But, I also believe that the lower level managers are also at fault by not pointing out the errors to their superiors.

If the most important characteristic of the industrial process is creative team-work, why does the paternalistic attitude persist? What factors motivate the superiors to mistrust their subordinates? Without doubt there are many reasons, some of which will be pointed out, at the risk of offering only a fragmentary explanation. We believe that the "intercultural barrier" is a dominant factor. This "barrier" is established between national and foreign personnel through their particular cultural backgrounds, beliefs, etc. Foreign personnel, particularly North Americans, have a preconceived idea that industry in other countries is the same as in their country, where there is scientific advancement and technology, powerful communication media, and advanced educational centers. As a counter-position, the "over-developed" world talks of the so-called "under-developed" countries, Peru being one of them. One cause of the national and foreign personnel problem is the difference in the formal and informal educational systems. The formal system tends to reinforce freedom of action of the individual, while the informal tries to eliminate the classical idea of "paternalism." To these factors, one can add the language differences, and most importantly, the custom and cultural differences. When both nationals and foreigners find themselves involved in the same activity, strong impressions are made; such as those of one of the workers in our factory:

> ...anything that a 'gringo' says must be considered right even if he is wrong. The Peruvian is looked on with a certain mistrust, not so of the 'gringo' even if he has 'blundered.' You'd think we had no mentality. Of course, there are certain exceptions: honest 'gringos,' with brains, who know what they are saying; but, most of them ruin everything and then desert us, leaving the death on our shoulders ... and then even blame us for it. This happens because they are 'gringos.'

At the same time, the foreigners will argue that there is a great scarcity of qualified local personnel capable of assuming responsibility in industry; an argument which reflects and maintains the paternalistic attitude. It is quite possible that the so-called "intercultural barrier" will tend to diminish and gradually disappear as national technicians become available, and educational systems are reoriented, and appropriate communication media are established. All of this is necessary for improved productivity, just as a sincere desire for mutual understanding and trust is necessary for complete satisfaction of the industrial workers.

In the dynamic process of industrialization, "the decentralization and the delegation of authority is based on trust. Where such trust does not exist, those occupying superior positions in the organization will try to maintain rigid control of their subordinates. This becomes a barrier which hinders the operations and the growth of the organization."[17]

Technological Change and Administrative and Labor Behavior

One of the factors that allows us to better understand the problems that arise from the administrative and labor behavior is the change in technology and its effect on the productivity and satisfaction of the personnel. This can be shown more clearly if we go back to 1941 when the factory was aquired.

In 1941 the factory processed 500 tons of paper. Now it processes a monthly average of 2000 tons. The technology of the plant has undergone a great deal of change, adjustment and adaptation; from the use of mechanical machinery to electrically operated machinery. For example, an old Fawler machine was reconditioned for the first power plant, the Fawler being a machine used in agriculture. The burner was replaced by a brick oven which was to be fed with fire-wood. When this machine stopped the entire production of the factory had to stop. It was necessary to wait two or three days unitl the oven cooled and, after making the necessary repairs, an equal

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[17] William F. White, The Highlevel Labor Force in Peru; Senati, Lima, Peru, 1964.

number of days were needed to reheat the oven so that it wouldn't fall apart from a sudden change in temperature. But times change. Now, the power generators are two modern oil steam boilers.

Technological change is relevant not only to old and new machinery, but also to family and society. For instance, new technology has produced machines which work around the clock and thus the workers too, in various shifts, work around the clock and thereby affect their families and society. In this age of the "space race" we talk of the spectacular events and the "changes of modern life" with excitement, but we seldom think about the emotional stresses which might be produced by the incredible velocity of these very changes. The eternal struggle between what is old and what is new can clearly be found in the industrial center that we are analyzing. A high-level executive told us that the industry had gone through a process of machinery change and improvement:

> But these changes have cost us 'teeth' because the people could not accept them easily. They were opposed, in spite of the fact that the changes in machinery and systems of work reduced their physical efforts and increased their salary. This seems unbelievable doesn't it? But, that is the way the people are. It is their ignorance that makes them react that way.

Let us agree that "ignorance" (often confused with illiteracy) is a factor in the resistance to accept new ideas and things, but it is hard to believe that it is the only or the main factor. There are other more complex factors which shake the personal security of the individual, as can be seen in the following account given to us by an employee of the firm:

> Our first printing press had only one printing process, it did not have an ink feeder, or a bender, or an edge cutter. All of these had to be done in three distinct processes. Now, the Hooper printing press does the three processes together. The people working with the old press protested when the new machine was acquired. With the new Hooper we needed fewer men, but more skilled men and the rest of the personnel was transferred to other sections.
>
> With the modernizing of the printing press everyone benefited; the company obtained greater production at lower cost, and the personnel running the machine had better salaries. But, instead of appreciating the change, the people argued that their work load was heavier because there were less personnel around. They could not realize that the machine was doing the work and not them. Slowly, however, they began to understand all these advantages.

This printing section - usually called "la Hooper," now has the highest level in the hierarchy of sections in the Boxes plant. This is because the demand for greater production has instituted a piece-rate wage system, which gives the workers in the section larger salaries and, as a result, a higher level of social prestige. This is why "la Hooper" is considered an occupational goal for many workers.

Talking about the fight between what is old and what is new, one worker tells of a situation:

> In the past, the bobbin-carriers had to make extraordinary efforts to transport and place the paper bobbins in the 'Corrugadora.' In order to eliminate this job, several towmotors were acquired to lift the bobbins and put them on a conveyor and place them in the Corrugadora. All this could be done by just one man. When the change was made the people protested, arguing that a greater and heavier load was given to them. Not true! On the contrary, the tremendous physical effort of the past had been eliminated almost completely.

The workers replaced by machinery have become insecure, and our informer says the "people fear new things as though the new things were competing with them." It is true that there is competition between men and machines, but the trend toward automation is unavoidable. "It is unfortunate," said psychiatrist Valdivia Ponce, "that men have been separated more and more from nature. When creating with machines, their spontaneity is destroyed and their frustrations are increased. The machine, which seems to be dependent upon man, is in reality enslaving man and giving constant frustration. We know that frustration breeds anxiety and anxiety breeds hostility and aggression. If that hostility is not controlled or regulated, it will affect others and thus produce problems in human interrelationships."[18]

It is evident that the major problem which faces the firm is how to introduce change. Another worker told us, "people here are used to working one way, and they do not want to change their working habits." He went on to tell of an incident which further illustrates the conflict between the old and the new:

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[18] M.R. Caravedo, Studies on Social Psychiatry in Peru; Ediciones El Sol, Lima, Peru, 1963.

> In the 'Casilleros' section the workers carry the carton sheets on their backs. To soften their work load and to reduce their physical efforts, a conveyor was installed. The workers opposed it. They argued that the conveyor was too low and that it forced them to bend down, damaging their kidneys. So, the conveyor was raised to a comfortable height. The workers argued that the conveyor was too large. The conveyor's size was reduced. Then it was too small. Finally, they said that it was not convenient to have it and asked to go back to the old method of work before the conveyor was installed. Imagine! They could not see the benefits of the conveyor. Not only the reduction in physical labor but also the increase in production which meant higher wages. But, no! My Lord! They did not want to know about new things. They are too stubborn....

This episode seems unreasonable to us but, however, the worker has a reason for rejecting the new machines even if such machines are for his own benefit. To him, his attitude is quite reasonable. For example, one of the workers affected by the change in the conveyor said that the change was not accepted because "it altered their accustomed job." It was difficult to adapt to their new job. This problem might have been avoided if a training period had preceded the change.

The working class would believe that the impact of technological change on the industrialization process does not affect the management. This is false. For example, a sudden reorientation in the administrative system affects mainly higher management. One informer, Manuel, illustrates this point:

> The last administrative changes in Grace created certain alarm among the Peruvian personnel. Through these changes, we have noticed that the foreign personnel - particularly the Americans - are again taking full command of Grace's negotiations. The alarm is based on the national's fear of having less authority.

Dario, another employee of the factory, was more direct:

> You are right, Manuel. Before, the Peruvian had to struggle for a promotion because the jobs were usually held by foreigners who, in most cases, tried to impose their own methods on us. They may have been efficient methods in their countries but they weren't appropriate here. Moreover, some of those foreigners were not even experienced and they had to be trained by the experienced Peruvians who were later to be their subordinates. These conditions produced resentment, but, thank God, some nationals reached higher positions. These nationals, however, became fearful of losing their positions because more and more changes were being made. They saw those changes as a serious menace to their positions which they had earned through long and hard work. This is the case in almost all levels of the Peruvian personnel.

The above observation reveals the way changes affect the people involved. This is not usually taken into consideration when preparation for a change is made. The change cannot be effective if the opinions of the people involved, either directly or indirectly, are not considered. The technological changes (introduction of new machinery, wage systems, administrative organizations, etc.) are reflected by the values and social structure of the people involved (workers, employees, or high-level managers). A great deal has been written which demonstrates that, in the social world, all social elements are interrelated, that is, if a change occurs in one element, all elements are affected.

We are not discussing here the benefits of introducing modern machinery which allows higher production at lower costs, or the idea of work through incentive which allows the worker to earn a higher wage, or the decentralization of the administrative structure which avoids duplication of effort and reduces bureaucracy. What we are discussing, assuming that the changes do have merit, is the way to "sell" these changes. It is agreed that the innovation of new technology and the re-orientation of any existing system must necessarily be needed in order to allow its acceptance. In addition, communications must previously be established between the promoters of the change and the individuals involved by the change in order to avoid misunderstanding and anxiety. If the change-agents ignore the need for this communication, the news of the innovation will alarm the people and their imaginations will run wild. It is recognized that industrialization is a dynamic process of change which, just as the earth orbits the sun, the individual adjusts to the change. The danger lies, as we have seen, in the sudden changes which throw the individual off balance, that is, alter his life which has been the same for many generations.

Josué de Castro said in a recent lecture that the problem of our times is the increasing speed of technological and scientific change and man's inability to adapt to it. It is this problem that is affecting the boxes plant; the industrial expansion and the workers acceptance of it are growing at a disproportionate rate.

Another employee of the company told us:

> Years ago things were different; much smoother. We worked without permanent engineers because the equipment was simple. But now, the equipment is more complex and we need the knowledge of a specialist.

In the beginning, the labor force of the industry was made up of 50 men, some of which were provincial immigrants who had begun to pour into Lima after World War II. At that time, the worker-employer relationship was personal and direct. The worker took his problems to the administrator or sub-administrator. A veteran employee told us:

> When this factory was much smaller there were no problems as there are now. The General Manager and Don Ramon were all that was needed. They knew the business perfectly and treated us with respect. A boss should be just like a father to the worker.

But in less than twenty years enormous changes have occurred in the factory - enlarging of the plants, overhauling of old machinery, and procurement of new machinery - to increase the output caused by customer demand. Now the General Manager is absorbed by the complexity of the administrative structure and is forced to delegate more responsibility to intermediate managers. Nevertheless, the communication with the subordinates is still vertical, although it is done on a more impersonal and formal basis and is limited to routine activities and preparations for technological innovations. Under this new administrative system, the work schedules in many instances exceed the 8-hour maximum established by law either by permanent or temporary overtime, and the wage structure has changed from the simple daily wage to the piece rates, bonuses, and production incentives. In spite of the delegation of functions and responsibilities, the intermediate managers are still only the executors of "superior orders," which reduce their personal initiative. The author is reminded of a case which occurred in another industrial center near the coast, where the manager had an assistant who was totally under his influence and control - a simple transmitter of orders. When the manager was promoted, his replacement decided to keep the same assistant thinking that he was a loyal and good employee. As the days passed the new manager observed that his assistant feared suggesting anything. One day, the manager - uncomfortable with the attitude of his assistant - asked, "why don't you say what you are thinking? Why don't you go straight to the point?" The assistant took advantage of the moment and quickly replied, "well, sir, what do you want me to do? For many years I have functioned under a dictatorship and have only carried out orders." This was a case of directive paternalism, which may have had good intentions but, unfortunately, ignored the creative capacity of the man, supressed his personal initiatives, and slowly forced contributions and

team-made decisions to disappear. This situation did not occur in the industry of our study, the paternalism changed for the most part with the technology. "What you are seeing now," a manager of the company told us, "is the product of a lifetime of adaptations."

Remarks like these are expressed by aware and sincere people who are an integral part of the changing process. This awareness of the managers is important because as a result their subordinates are considered in a decision. In the case of the "Casilleros," which was mentioned earlier, the workers rejected a new machine and the adjustments made by management to satisfy the demands of the workers. That is the type of adaptive behavior with which we are concerned. If the managers react againt and resist changes in their traditional ways and ideas, the results would be very discouraging. One manager of the firm told us:

> You know that everything in life changes. Even we, the old ones, like to stick to our customs and to our old systems. But that is the law of living and there is no way out.

This attitude is called "toma de conciencia" (sudden insight)which is man's acceptance and adaptation to the process of industrialization, whether he agrees or not. The same manager goes on:

> Changes from the old to the new are going on in all industries and agricultural centers. In Paramonga, for example, oxen were replaced by mechanical plows. Just a few years ago the sugar-cane was cut by the famous 'macheteros' who cut the cane after it had been burned and worked with faces black from ashes. Now the macheteros have been replaced by mechanical cutters which not only cut but also pick up the sugar-cane and place it in wagons - all in just a few minutes. This mechanization is a natural process of modern development: machines replacing human efforts thereby making the job easier and lighter. This also makes it possible to increase production and produce at a lower cost, giving advantage to the producer and disadvantage to the worker. When the industrial worker is not capable of facing modern ideas he is replaced by a more capable individual. Modern industries are constantly demanding technicians who know how to run the new machines.

In the last few years, the manufacturing industry, the most modern sector of Peru, had developed rapidly, and the technological organizations have grown more and more complex. The dynamism of this industrial process urgently demands skilled labor and qualified personnel, not only for their years of

experience but also for their education and industrial training. Indeed, "the problem of creating a qualified industrial labor force in Peru is essential in promoting economic welfare in the country."[19] In spite of the tremendous opportunities open to the skilled worker, this need has been hindered by "the traditional prestige of other non-manual occupations." Investigators of this particular problem say there is a need for"educational institutions which will not only train, but also give social prestige,"[20] and also for the re-orientation of the formal education system which would adjust to the real needs of the developing country.

We have now pointed out some of the consequences of the industrialization process, emphasizing finally the tremendous deficit of qualified labor which the emerging economy urgently requires.

Coming back to the factory center which we are studying, we ask ourselves how the worker has survived under the process of industrialization. In answering such a question we must start with the formation and functions of the syndicated organization of workers.

The organization of the Union in 1957 (see Figure 3) was an answer to many of the problems of the workers: occupational insecurity or the fear of being fired; impersonal treatment and dictatorship of superiors, particularly foremen; wage re-adjustments; etc. One worker told us:

> Before our Union was formed many workers had a constant fear of losing their jobs. If anyone had the courage to complain, he was told 'to get into the factory there is only one gate, but to get out there are four, therefore, my friend, you can choose between staying on your job or getting out forever.' In cases like this, it is better to be silent.

The migratory wave of "provincianos" toward the coastal cities increased the amount of unskilled labor seeking occupation. This is confirmed by a manager in the company:

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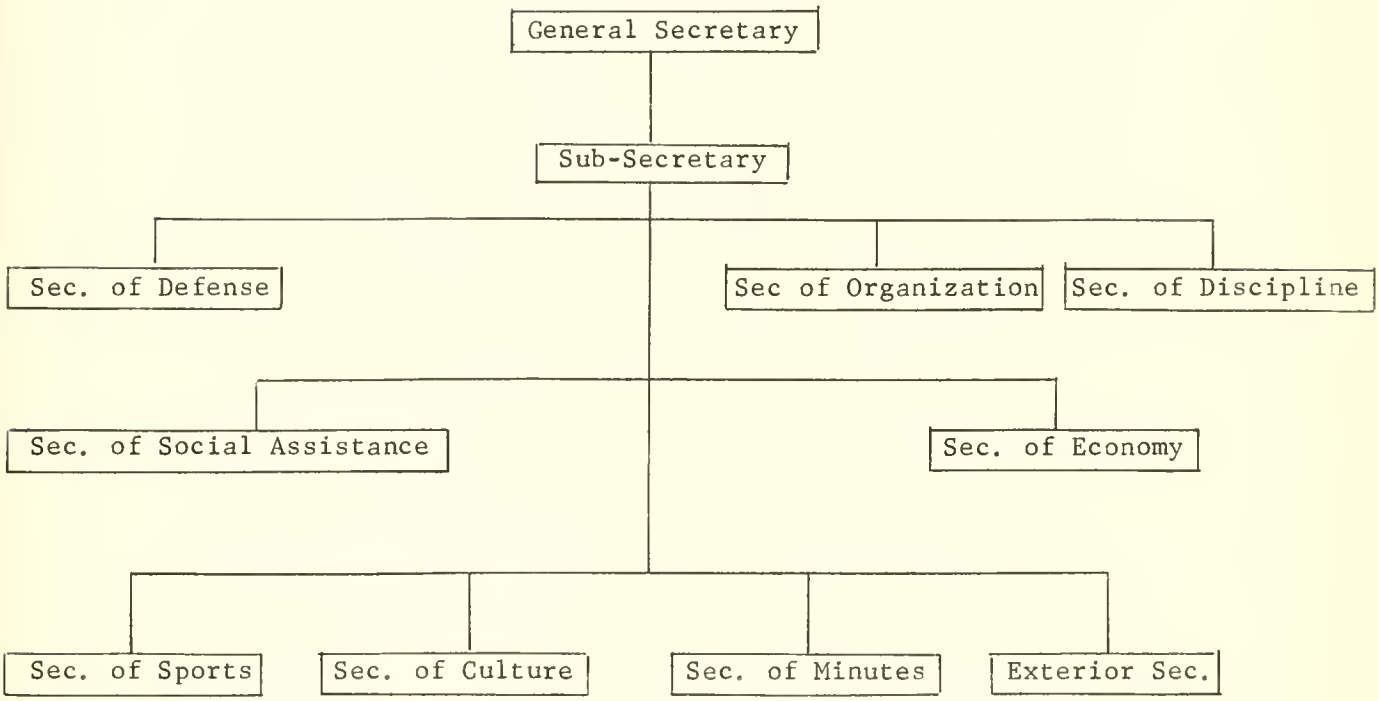
[19] Guillermo Briones and Jose Meja Valera, The Industrial Worker; Institute of Sociological Research, Major University of San Marcos, Lima, Peru, 1964.

[20] William F. Whyte, The High-level Labor Force in Peru; National Service of Training and Industrial Work (SENATI), Lima, Peru, 1964.

Figure 3

UNION ORGANIZATION CHART OF THE

BOXES AND BAGS FACTORY



> Before things were quite different - better. It was always possible to fire a worker if he started to cause problems or he wanted to boycott production. But now, they have formed a Union, and they have grown. In my opinion the worst part is the 'stability' law, which forces the employer many times to keep unnecessary personnel rather than fire them.

Working in an insecure environment undoubtably creates a tremendous anxiety in the worker about the present and future of his family.

> Sir, the fear of losing my job grows when I think of the pot that must be filled everyday to satisfy many mouths. I think about my wife and children waiting for me to buy them clothing, medicine, books, and many other things. This is why so many workers try to get along well with the supervisors, especially the foremen.

In the beginning, the foremen were executors of superior orders, they got higher production of the workers through compliments or threats. In most cases, as Dr. Whyte points out, "the traditional Peruvian foreman was nothing but a worker with higher pay and more recognition."[21] In our study the foremen's earnings are, in many instances, greater than the earnings of their superiors, through overtime, production incentives, and seniority.[22] Theoretically, the social and occupational prestige of a Quality Supervisor is greater than that of a Foreman, however, there is certain inconsistency in the work group of our study due to the salary differencials. This fact causes some degree of internal friction and tension, many times a lack of cooperation and just or unjust criticism among lower level management (supervisors and foremen). The authority which the Foremen thus took over created various reactions among the workers and, particularly among the Union leaders.

> A few years ago the foremen were independent, they gave overtime to workers of their choice. They made special deals to leave the heavy loads for overtime in order to gain double salaries for themselves and their favorites. They handled the work as a feudal operation to satisfy their own goals. In turn the foremen were helped by their favorites by being called or nominated as a Congress Representative or Senator . . . but all that is over now, thank goodness, because of our Union.

The personnel had only two alternatives: either to become an unconditional slave of the foreman or to be part of the group dreaming of some future "lib-

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[21] William F. Whyte, op. cit.

[22] Table 4 shows the relation of salary differentials to the status of the worker.

eration" and equal treatment. This fact, and others which we mentioned before, precipitated the formation of a Union which defended and guided the workers. Besides establishing better worker-employer relationships, the Union also has aims of "firm, intelligent and diplomatic social conquests," which are expressed by one prestigious Union leader:

> Disagreeing with what many people might think, we, the Union leaders, are not monsters trying to scare management but neither are we easily put down. No! The years have punished us enough to make us realize that we can get more benefits with brains than with force. The threat of a strike is our last weapon, but this is not very popular due to the politics of some Unions. Thank God, this has not concerned us yet...

It may seem that political ideologies are independent of the Union objectives. This is not true. The ideologies of the working class are always considered and often adopted by aspiring political party leaders. Even though a good portion of the workers declare themselves "independent," their ideologies, many times undefined, lean in the same general direction. Some will say that "authoritarianism" is characteristic of the Peruvian working class,[23] but this principle is not easily found in the working group of our study. This is due to the flexibility of the firm's directive personnel and their honesty in living up to agreements with the labor organization.

> When the problems are not complex, we solve them with gentlemen's words without signing any documents. Luckily, both the Union and the management fulfill their promises.

The effectiveness of this policy can be seen by the infrequency of labor conflicts in the firm. During the 24 years there was one 24-hour walk-out and a six-day strike made in conjunction with the other syndicated organizations. Recently, there was another 24-hour walk-out caused by unjust treatments and higher production demands in one section of the factory. We shall go into this later because it directly concerns our working group.

Although the Union is not directly linked to a National Federation, it has achieved significant importance in the running of the firm.

> Up to 1963, we belonged to Grace's Central Union but, when they started playing dirty with us - like the time of the strike - we withdrew. When the employees of Paramonga demanded support from the Central Union, we had to go on strike because the Central ordered it. After one week of strike we were ordered back to work. Nothing had been

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[23] Mejia Valera Briones, op. cit.

> solved. We realized that the Director of the Central Union did what he wished without considering us. There was a lot of politics involved, too. So, we agreed to leave the Central Union and we stopped sending them our contribution.
>
> We did not join the CTP (Workers Confederation of Peru) because they are a bunch of wise guys mixed up with politics and closely tied to the APRA party, which manages them like puppets. All syndicated organizations should be non-political in order to fight fairly and with dignity for the rights of the working class. Any worker is free to have his own political ideas, but as a union, we do not have either political or religious ideas...this is quite clear in our statutes...

88 percent of the workers are unionized. The remaining 12 percent are mostly new workers who have been in the factory for less than three months, or on a try-out period. There are also some workers who would rather stay out of the Union, "yellow" ones. These workers are not neutral, however, because they are considered to be a "decomposure of the workers unity" and no fellow worker or union leader will defend them if they are fired or laid-off. On the other hand, the unionized workers enjoy full support of the organization which guarantees job security, fair treatment from bosses, improvement of working conditions, and fringe benefits such as economic assistance in case of sickness or death. In addition, there is the recently installed Consumer Cooperative which sells articles to the workers and thereby prevents the Chinese businessmen who previously sold these articles from making large and unfair profits from the workers. The Cooperative also offers extension of credit. In the Cooperative, the stockholders are the workers and their relatives, and they receive yearly dividends. In this way, the Union encourages the social interaction among workers. This interaction will be analyzed next.

The horizontal level of the social interactions of the workers provides a mutually supported relationship which allows them to unite against the impact of the industrialization process. Such relationships are carried outside the working environment.

> If a close relative of a fellow worker passes away, we take a collection to help him. Those workers who can, will go to the funeral. We must be that way. The world keeps moving. Our lives are only borrowed. Our principle is: today for you, tomorrow for me.

The world of the industrial worker is made up of many social laws which are a result of his activities, sentiments and interactions. The social behavior of the workers is strengthened by identification with the working center,

thus the workers can unite and remain safe from the impersonal industrial urban culture. The voluntary contributions in emergencies, birthday celebrations, wedding gifts, and the name "compadre" which everyone is called all help to unite the workers more closely. A concurrent factor in their unity is undoubtably the similarity of origins: 89 percent of the personnel comes from the provinces, and only 11 percent were born in Lima. The huge difference in the number of workers from the provinces and city is not unusual. Lima is saturated with unemployed migrants. This enables the employers to hand pick their personnel. "Personnel selection is important not only to the employers but also to the individual. A good selection of personnel will tend to eliminate failure, resentment, frustration, conflict, and will help the individual to develop his own aptitudes."[24] The Provincial group, however, differs from the "limenos" in that they are more physically capable, honest, and conscious of their duties in the industry. These differences make the "provinciano" of more use to industry than the "wise guy" from Lima. We shall explore this further in chapter three, where we treat the positives and negatives of both groups.

The "provincianos,"although from different parts of the country, are unified by common needs, aspirations, and problems in facing the hard conditions of metropolitan life.

Another reason for social interactions, particularly among the young workers, is the sport competitions between the different sections of the factory, which go on at certain times of the year. These competitions are organized by the Sports Secretary of the Union and are encouraged by the management, who provide prizes and uniforms. These events are also significant because they create an opportunity for the blue and white collar employees to fraternize, setting aside their differences and promoting a better mutual understanding. Vertical, social interaction is promoted further by the friendly lunches offered every Christmas by top management to all of the personnel. Such interactions are important to entrepreneurial development and policies involving technological changes, and they increase the mutual patronal-employee understanding.

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[24] R. M. Caravedo, op. cit.

Social Structure of a Work Group

In the previous section we pointed out the relevant facts concerning the labor and administration of a particular manufacturing center. We also pointed out that in the last 20 years, the technological organization of the factory has been enlarged by adding new equipment and, as a result, has become more complex because of this equipment. We mentioned the flexibility of the administrative system of the firm, in adapting to the changing conditions of the industry, and we acknowledged the existance of "directive paternalism." Special attention was given to the dynamics of technological change and the reaction to it made by labor and administration. We also touched upon the syndicated organization and analyzed the factors which motivated its formation and, through this formation, the establishment of worker-patronal interactions. We presented some of the horizontal (worker to worker) and vertical (superior to subordinate) motivating forces of social conduct. We assumed that the social interactions, both horizontal and vertical, give the workers security, and help to establish mutual social attitudes and encourages better worker-patron understanding through the industrialization process.

Now we shall examine these points more closely in a 15-man working group of the "Corrugadora" section of the Boxes Factory.

Technological Organization of the Shop and the Working Group

The Corrugadora, symbolically called "mother of the machines," transforms paper into carton sheets and is the initial process of manufacturing boxes. From this "lamination" process stem all the other processes, thus justifying the symbolic name of "mother."

This section (as seen in Figure 1) is the largest work section of the Boxes Plant, and in it we find the new Corrugadora (acquired in 1951), a small power plant to run the machine, and gum-storing tanks which automatically feed the gum for the corrugating process. The process compresses three sheets of paper together with gum or special starch and produces carton sheets which are then dried by evaporation. The weight of the paper sheets used in the process of lamination determines the quality and resistance indexes of the carton.

Next to the new Corrugadora there is a small, old Corrugadora which came from an old German-owned factory and thus is known as "Alemana" (German one). The Alemana is used when the customers demand special light carton (only 2 sheets of paper) or when the new machine has broken down.

Customer demands and therefore production needs keep the plant operating 24 hours a day everyday except Sunday and Holidays. The number of workers in this section totals 38, and these men are divided into two and three shifts.

As can be seen in Table I, the team of operators for a normal shift of one week consists of 15 men: nine of whom (including the quality supervisor who is the only status employee) work on a rotating basis of three eight-hour shifts, five work on two twelve-hour shifts also rotating weekly, and the man operating the gum tanks (gummer) works twelve hours in the day shift. The operators working 12 hours earn four hours overtime, which is normal time during the day and is double time during the night.

Less than a year ago, all the personnel of the Corrugadora, with the exception of the gummer, worked in two twelve-hour shifts with four hours overtime. The reduction to three eight-hour shifts for some of the personnel was accepted by the workers on the condition that the salaries were to be adjusted to include in the new basic salaries the overtime earned previously. The group of workers still working in two twelve-hour shifts prefered to maintain that system because, apparently, they were afraid that the company would not give them the same pay for only eight hours. The management is, however, trying to eliminate all overtime work in order to observe the eight-hour maximum work law.

Every worker receives a weekly pay of his base salary plus a Sunday allowance, overtime, some special benefits established by law, and an incentive pay of 48 Peruvian cents per thousand square meters produced. The only exceptions are the foremen who receive twice that incentive pay and the gummer and calderero who receive no incentive pay because their participation in the production process is indirect (see Table II).

The amount produced is measured by a counter on the Corrugadora. The counter indicates the length of the carton produced, but in order to obtain the square meters produced, the length is multiplied by the width of the carton.

Table I

SYSTEM OF SHIFTS AND WORKING HOURS

No.	Type of Work	Shifts	Hours	Schedule
1	Quality Supervisor	3	8	
2	Receivers	3	8	7:00 a.m. - 3:00 p.m.
2	Accomodator	3	8	
2	Dichargers	3	8	3:00 p.m. - 11:00 p.m.
1	Planero	3	8	
1	Volante	3	8	11:00 p.m. - 7:00 a.m.
1	Foreman	2	12	
1	First Machinist	2	12	7:00 a.m. - 7:00 p.m.
1	Second Machinist	2	12	
1	Calderero	2	12	7:00 p.m. - 7:00 a.m.
1	Bobinero	2	12	
1	Gummer	1	12	7:00 a.m. - 7:00 p.m.

Table II

BASIC SALARY AND AVERAGE DAILY EARNINGS WITH INCENTIVES AND OVERTIME

Names	Occupation	Basic Salary (Soles)	Average Daily Salary (Soles)	Hours
Hector	Foreman	136.00	273.30	12
Pablo	First Machinist	119.00	212.60	12
Clemente	Calderero	119.00	208.90	12
Julian	Second Machinist	119.00	187.50	12
Donato	Bobinero	94.00	181.60	12
David	Gummer	94.00	179.80	12
Carlos	Receiver	88.00	124.00	8
Tomas	Receiver	88.00	123.00	8
José	Accomodator	71.00	100.00	8
Daniel	Discharger	71.00	98.00	8
Hugo	Accomodator	67.00	98.00	8
Dario	Discharger	67.00	98.00	8
Abner	Planero	67.00	96.00	8
Benito	Volante	36.00	41.70	8

The production incentives are posted daily on a bulletin board (see Table III). The posting of daily production figures increases competition among the working teams. From Table III we can see that team "C" had the highest rate of production and incentive, while team "A", which is the group of our study, had the lowest rate. The figures indicate that both teams "C" and "B" have a greater productivity than team "A" but this is relative to the factors involved in the production.

Table III

AVERAGE DAILY PRODUCTION AND INCENTIVES OF THE WORKING TEAMS OF 8-HOUR SHIFTS OVER A SIX WEEK PERIOD[25]

March - April - 1965

Team	Production M^2	Incentive (Soles)
A	36,877	17.73
B	37,328	18.20
C	41,233	19.80

In principle, all teams work on the Corrugadora but in different shifts. The machine can normally work at an average speed of 270 feet per minute. This speed varies according to the type of carton produced. The average speed of light carton production is 250 feet per minute, while with heavy carton production a 200 feet per minute speed is good.

The incentive system does not satisfy the working teams because the piece-work system used in other sections of the factory has more prestige. This dissatisfaction is clearly implied by the complaining tone of the workers when they call themselves "jornaleros" (wage-workers) and the others "destajeros" (piece-workers). In our particular group, the production incentives do not increase competition because the production incentive system is not desirable to the workers. Indeed, an incident occurred in 1964, a protest strike which originated in the Corrugadora, because the company was demanding higher productivity in that section. We will deal with this strike further when we go

[25] The amount of incentives is per individual. The amount of production is of the team as a whole.

into the sentiments of the group. Both the incentive and piece-rate systems are based on the idea that greater salary levels give greater production, however, the systems differ in the amounts paid.[26] Here is the reason for prestige of the piece-rate system. In addition, importance is given to the piece-rate system by the "destajeros" themselves.

The sentiments of dissatisfaction are made clear in expressions such as these:

> The so-called incentive is some 'nothing' that they give us besides our basic salary. The 'destajeros' put the cartons all over the place, blocking our way; but, of course, this is alright because they are 'destajeros.'

One could interpret these declarations to mean that the group refuses to accept the benefits of the incentive system merely because of the more favorable image of the destajeros. This attitude is further illustrated by the fact that there are constant petitions to the supervisors to get transfers from the corrugadora to other sections where there is a piece-rate system. Now we ask why the piece-rate system is not used in the corrugadora when it is used in all the other sections of the plant? The answers we found gave the following reasons:

> In the corrugadora, the piece-rate system is not applied because we must be careful with quality of carton. The increased production caused by the piece-rate system can cause a great number of rejected sheets, either by mechanical deficiencies of the machine or by alteration in the vapor pressure. The productivity bonus is given only for acceptable production. The corrugadora is not conditioned to run at more than 270 feet per minute.

Status Factors of the Members of the Work-group

In order to better understand the social conduct of our work-group we shall delve into the personal data of the members which have a powerful influence on the behavior and social interaction of the individual and on the conduct of the group as a whole.

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[26] A comparison of average weekly earnings of the workers in the corrugadora and the workers in the hooper shows this difference: 800.00 soles in the corrugadora, 1,600.00 soles in the hooper.

Enrique, a quality supervisor, stands the highest in the occupational hierarchy of the working team. In principle, he is a "while collar" employee and as such has a higher social level than the common worker or "blue collar" worker. This is true even if, in some instances, the earnings of a white collar worker are lower. In Table IV this very situation is shown; eight out of the fifteen members of the group have higher salaries than Enrique, in spite of his preparation and training which are comparable only with those of David. Enrique's aspirations for becoming a professional were ended when he failed the entrance examinations of the University. Hector follows him in the social status of the workers. His formal position is foreman, which gives him relative authority over the workers, that is, the transmission of orders from above (Enrique). Hector differs greatly from his boss, Enrique, in many ways: Hector is sixteen years older than Enrique and has 24 years in the company against Enrique's 6; his salary is almost three times larger than Enrique's. Both men have one thing in common: they come from the provinces outside of Lima, and are therefore "provincianos " as are most of the members of the group.[27]

In the occupational categories of the group members, Pablo, the first machinist, and Clemente, the calerero, are considered "skilled workers" (Calificados). (See Figure IV.) Both men have higher salaries than the rest of the personnel with the exception of Hector. The title of Pablo's job qualifies him as a skilled worker in spite of the fact that his education and experience are lower than Clement's, who has completed primary school and has long experience as a machinist in the Merchant Marine. Both men are provincianos: at an early age Pablo left the mountains with his father to "look for a better future," and Clement left the coastal region for the military service, staying finally with the Merchant Marine after the Navy discharged him. Julian, Donato, and David are semi-skilled workers with similar salary levels, all of which are higher than Enrique's salary level. Julian and Donato have similar backgrounds; they have incomplete primary school education, they come from the same mountain region, and they speak Quechua (Indian dialect) and Spanish. These factors contribute to their better mutual

[27] The political map of Peru in Figure V. indicates where the workers came from, each X representing a worker.

Table IV

SOCIAL AND OCCUPATIONAL STATUS OF THE WORKING TEAM IN THE CORRUGADORA

Name	Occupation Category	Earnings Average (a)	Age	Education (b)	Seniority Years	Origin (d)
Enrique	Supervisor	3,425 soles	29	HSC	6	Prov.
Hector	Foreman	8,199	45	PSC	24	Prov.
Clemente	Calderero	6,269	43	PSC	13	Prov.
Pablo	1st Machinist	6,378	46	PSI	18	Prov.
Julian	2nd Machinist	5,626	37	PSI	15	Prov.
Donato	Bobinero	5,449	30	PSI	9	Prov.
David	Gummer	5,393	30	HSC	9	Cap.
Carlos	Receiver (c)	3,721	51	PSI	9	Cap. (dep)
Tomas	Receiver	3,720	39	PSI	8	Prov.
José	Accomodator	3,016	33	PSI	6	Prov.
Daniel	Discharger	2,940	27	PSI	5	Prov.
Hugo	Accomodator	2,940	26	PSI	5	Prov.
Dario	Discharger	2,940	26	PSC	5	Prov.
Abner	Planero	2,900	22	PSC	4	Cap. (dep)
Benito	Volante	1,251	24	PSC	5	Prov.

(a) April-March 1965, monthly averages

(b) HSC = High School Complete
PSC = Primary School Complete
PSI = Primary School Incomplete

(c) The accomodators, receivers and discharger have the same occupational category of "receiver" since all of them take one hour turns in the three functions performed. This was agreed on two years ago in order to avoid having only one man handle the hot carton sheets continually.

(d) Prov. = From the Provinces
Cap. = From the capital, Lima, or the province of Lima which is indicated by the addition of "dep." for departamento

Figure IV.

FORMAL HIERARCHY OF WORK GROUP CORRUGADORA

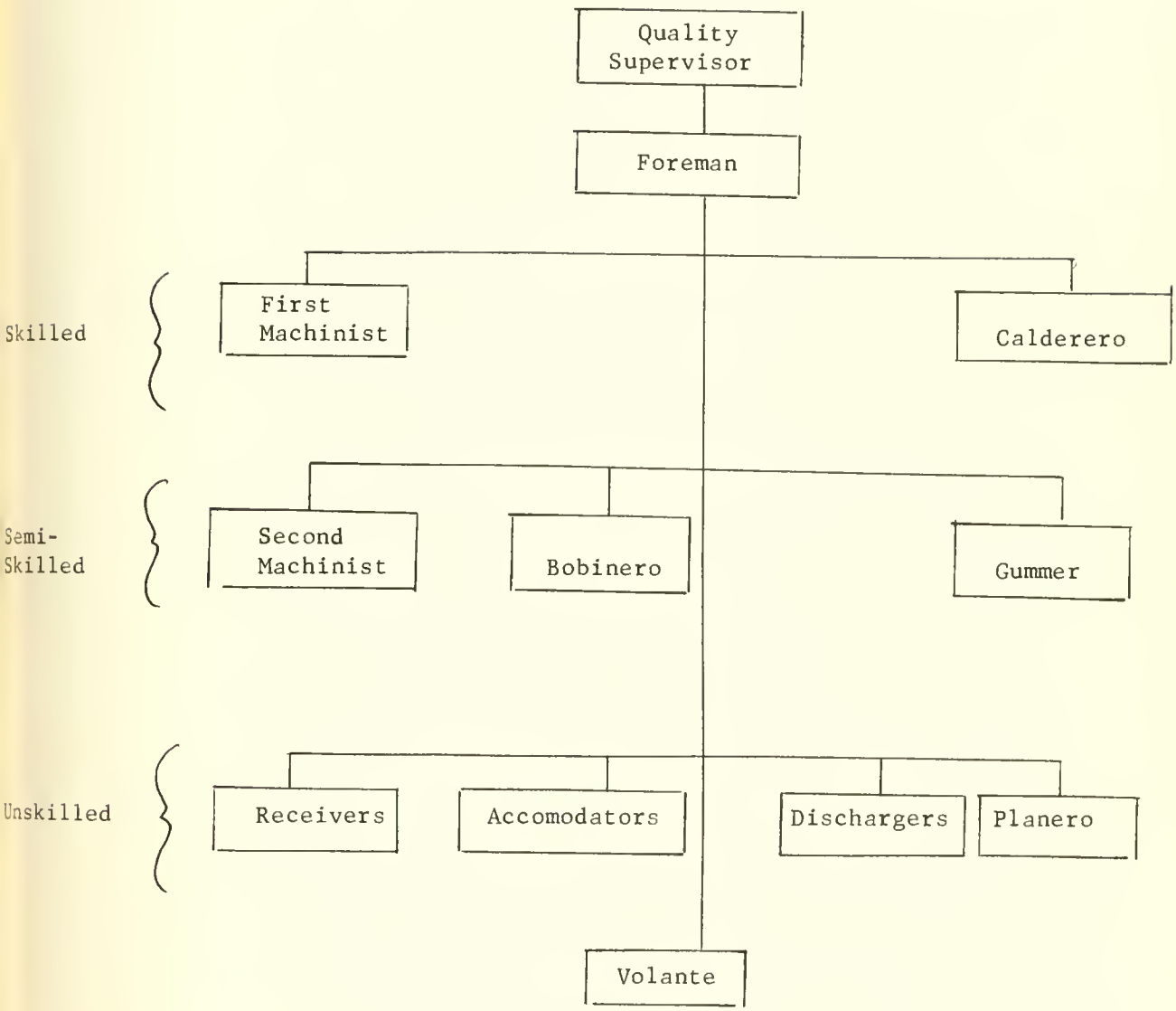
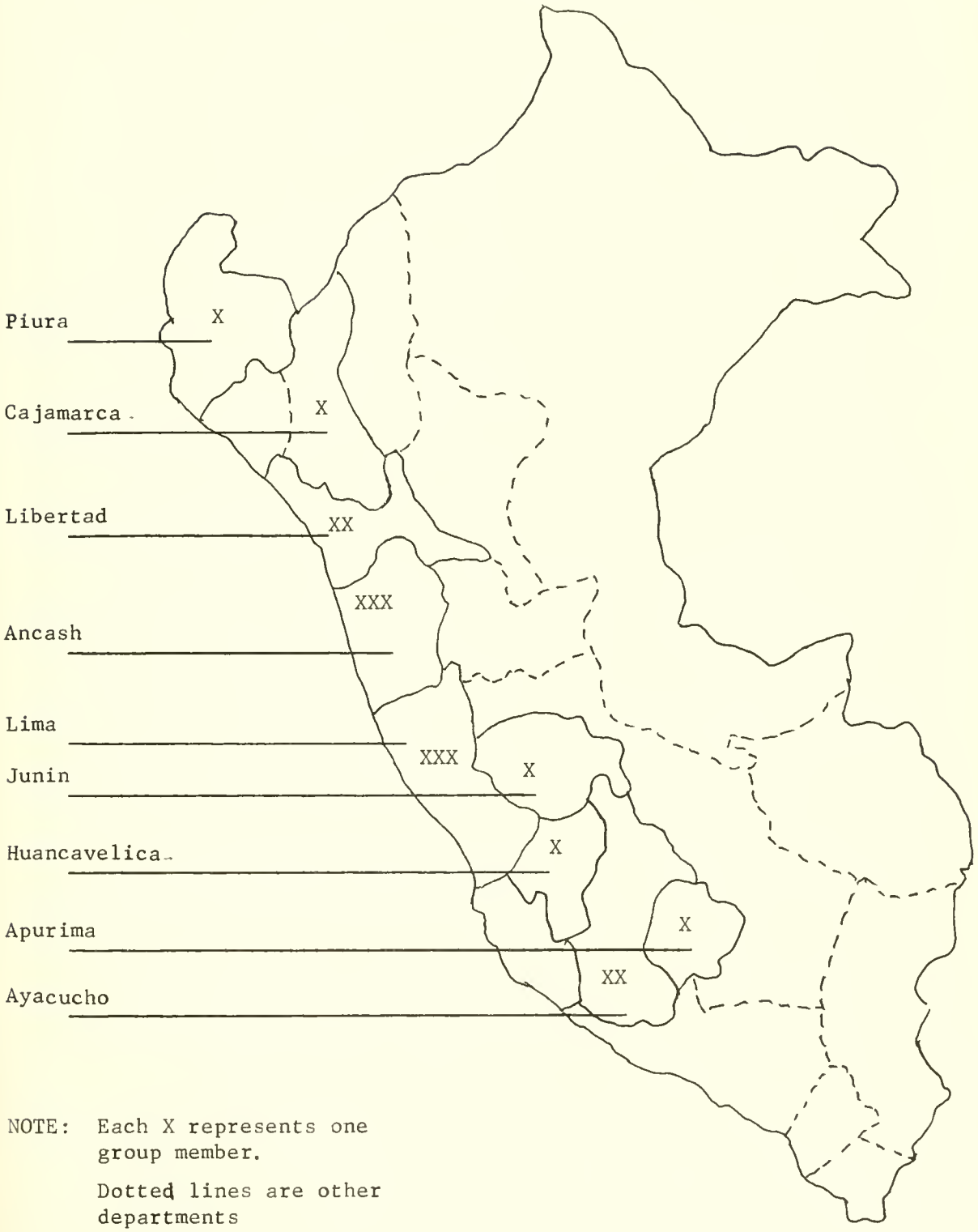


Figure V

PLACE OF ORIGIN OF THE MEMBERS OF THE WORK GROUP

(Boxes and Bags Factory)



NOTE: Each X represents one group member.

Dotted lines are other departments

understanding. David, on the other hand, with the exception of his salary and age, differs a great deal from Julian and Donato. He has a complete secondary education, he was accepted into a Military Academy of the Air Force but was discharged due to political reasons. His professional career was thus ended but he is proud of being a common worker. He is the only worker from the city of Lima.

Of the eight "unskilled workers" in the group, only three had completed primary school; six came from the mountain region and two came from Lima. The oldest is Carlos who also has more years of service. Abner is the "Benjamin" of the group since he is the youngest. The salaries of Carlos and Tomas are larger than Enrique's.

In this group of unskilled workers, Benito as a "volante," or helper, and because of his few years with the firm has the lowest occupational status. He also has the lowest salary among the members of the group even though he has completed primary school. He is still studying in night school which fact gives him some advantage over his fellow-workers.

The status of Enrique and David is inconsistent.[28] Enrique earns less as head of the group than most of his subordinates; David has a high level of education but five of his fellow workers have larger salaries including Julian and Donato who are only semi-skilled workers.

The consistency or inconsistency of status has a great deal of influence on the sentiments and interactions of these workers, as we shall see below.

Besides the salary differences of Table IV we can also notice the differences in educational levels. Only eight out of the fifteen members of the group have a completed primary school education: one of them is skilled, two are semi-skilled, and five are un-skilled. The occupational levels of Pablo, Julian, and Donato are a direct function of their years of service and experience in the plant - 16 years average - and not their individual levels of education.

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[28] To define "consistency of status" we follow Zeleznik's concept - when all members of one work-group have the same factors of status - that inconsistency of status exists when the individuals have different occupational levels and different factors of status. See, "Worker Satisfaction and Development," A. Zeleznik, Harvard Business School, 1956.

The social categorization of the manual worker is a problem that we find in the work-group of our study. One day, while travelling to the factory in the car which transports workers and employees, the author overheard Benito talking to a young girl (a provinciana). He was telling her about his job as an"employee"and the importance of being a controller of paper bobbins, which he emphasized with great pride. This incident would have been forgotten by the author, but when Benito saw the author later, he tried to explain his "bragging" in the following way:

> If you tell the chicks that you are a worker they avoid you. They are very choosy. So, I told that girl that I was an employee, and I think she believed me.

It has already been pointed out that Benito occupies the lowest occupation of the workers. As a volante his post is similar to that of the workers who clean the building, "new" workers. Eight years ago Benito left his home in Cajamarca after his mother passed away. "I wanted to forget my sorrows; it was not the same living with my stepmother." For many years he worked in the nearby "haciendas" earning a miserable salary and being mistreated by the "caporales" (country-foremen).

> In my province I would always be Mr. Nobody, because there is no future there. The big ones eat the small ones. I came to Lima to study and work at the same time. But here things aren't easy either; you have to suffer a great deal especially when you are at the bottom. I remember my first weeks here; I walked through Lima like a condemned man looking for a job, when I got to one place, the job was already taken; when I got to another place, there was a long line of good looking 'guys' who made me feel small and lacking courage. This was because I was still a provinciano afraid of my own shadow. But, I started to get used to the environment. I worked in many different places, I was a restaurant waiter, a servant in a house in Miraflores, an electricians assistant, and finally I was recommended for a job here five months ago.

The beginner working as a volante in the factory must pay the price of his inexperience. It is quite difficult for the new worker not only because of the undefined functions of his job but also because the older workers put him through a period of acceptance or non-acceptance, and this creates an uncomfortable working environment. Benito is going through that period of selection and a very significant fact is that he has not been nicknamed, a positive sign of acceptance. (Later, the significance of the nicknames will be dis-

cussed more fully.) Benito has also started to study in a school of commerce at night, after arranging his working schedule with the supervisor. Benito's goal is to become an employee (white collar) some day.

> The work of an office employee is smooth, decent, and of a higher category than that of a worker, and that is why I am burning my eyelashes studying hard. You know that the office employee is considered better everywhere: he is better dressed, usually earns more money, and people like him more. When he misses work he is still paid but if you are a worker, and you miss work, you lose the pay for that day, plus Sunday pay.

Benito's attitude can be explained by his low salary and his better than average education, but, however, the low salary of a beginner is still higher than the salary of the lowest ranked office clerk. Furthermore, the old workers make more money, on the average, than the old office employees. Therefore, there must be a powerful reason for this attitude aside from the economic disadvantages. That reason is the prestige of being a white collar employee. This reason is explained by some of the workers:

> Where ever you go the employee is considered better.
> Being an office employee you improve your class, you go up the scale, and you get better treatment from the bosses and the people.
> When Silva got married he sent some of us an invitation. We bought him a gift but we didn't go to the wedding because he was an office employee, and of another class.

Expressions such as these reflect the cultural barrier that has been established against manual labor by the old idea that a worker is always less prepared and is only capable of manual tasks requiring brute force. This idea keeps the worker at a low social level and, thus, motivates him to improve his social status, through becoming an office employee or perhaps by reaching a higher occupational level in the manual skills. There is another group of workers who could be called "conformists." They are conscious of their social status and attribute it to "bad luck," making no effort to improve themselves because they are convinced that they could not learn now because they are too old. But even these conformists tend to help their sons become what they themselves could not. This sentiment is almost universal, as can be seen by the worker's aspirations listed in Table V. When the workers were asked what they wanted most in life, all fifteen members answered "the education of their children." This is further emphasized by

Table V

ASPIRATIONS OF THE WORK-GROUP MEMBERS

Most Desirable Goals	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total Answers	
Children's education	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	100%
Own house	X	X		X	X		X	X		X	X	X	X	X	X	12	80%
Professional children	X	X	X			X			X		X		X	X	X	9	60%
A better job	X	X	X		X		X			X		X				7	47%
To study	X								X			X		X	X	5	40%
Security in job			X	X						X	X					4	27%
Work independently						X							X	X		3	20%
Commodities: TV, furniture											X			X	X	3	20%
Own a car	X					X				X						3	20%
Be a professional	X									X						2	13%
Brother's education						X										1	7%
Quiet job								X								1	7%
Stable prices								X								1	7%
Be a driver									X							1	7%
Have a happy family											X					1	7%
Help his parents															X	1	7%
That his town be a district													X			1	7%

LEGEND:
A = Enrique
B = Hector
C = Pablo
D = Julian
E = Clemente
F = Donato
G = David
H = Carlos
I = Tomas
J = Benito
K = José
L = Hugo
M = Dario
N = Daniel
O = Abner

another answer, "having professional children;" an aspiration based on the traditional prestige of so-called intellectual occupations. Illustrating this, Carlos answered:

> I didn't finish primary school because of tough luck, my old man died when I was a kid and my mother had to feed five of us. I used to tell myself that I was going to study while working once I gathered a few coins; but interest is lost and time starts to run, and even worse, you have a family of your own. If I had finished school, would I be here? No! It would be different. This is why I want to sacrifice myself for my children. I want them to be something - professionals - what I couldn't be.

Education therefore becomes the primary means of occupying positions of prestige in society. To many of the younger workers an employee position, even if it were a simple clerk's position with a low salary, is their idea of a "decent job." This does not mean, however, that manual labor is considered "indecent;" many of the skilled workers are called "maestros," and mechanical and electrical engineers are often involved in specialized manual tasks. It is the category of "worker" that indicates lower social status and subsequently is reflected in the difference in treatment and attitude of dislike often assumed by the white collar employees. For example, David, who has completed his high school education, tells us:

> The empleados feel superior to us, the workers, even if they don't have a better education. Because they are called "empleados" they feel important, but you should see them working. They sit at their desks, write nothing on some paper, use the typewriters. Easy things - and outside of that they do nothing else. But we, the workers, kill ourselves. We have the hardest jobs. We are the true producers of the industry.

Nevertheless, this same worker was taking steps to be transfered to an empleado.

The industrial worker considers the worker on the "haciendas" to be of a lower status level, a very primitive farmer without any "social friction" of city life. However, all the workers in general have the same status level (working masses) even though they differ in origen, education, seniority, salary systems, ideological inclinations, etc. This sameness of status in their jobs, however, promotes a kind of fraternalism among the workers, as we shall see later.

The Workers and Fraternalism

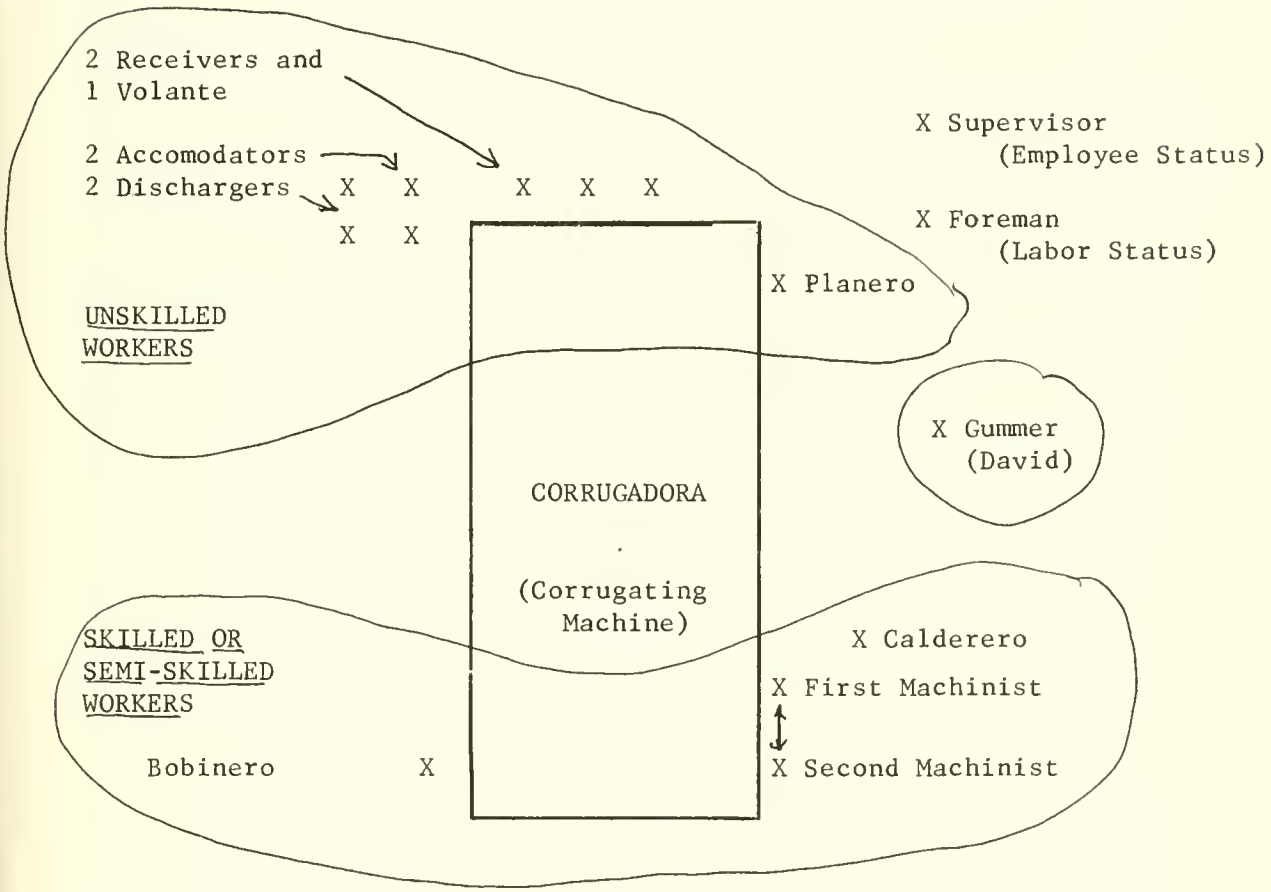
The moment a person enters the working shop, he adjusts himself to certain formal responsibilities which are determined by verbal orders from the supervisors and the foremen. The worker never has a written definition of his functions, nor a program of adequate training which orientates him in his industrial job. However, these activities develop according to the demand of production. If there is no systematic plan of training for the beginner in a job, how does he learn? In principle, no new workers are accepted immediately, but have a try out period of three months, which is established by law. In that period, the starter tries to adapt himself to the routine. He observes the other workers and tries to learn from them as much as possible. Maybe an older worker or the supervisor or foreman will explain the process of work. After finishing those three months, the beginner starts to feel more secure. He usually joins the union, under whose protection he feels better motivated.

The organization of the working place of our group is shown in Figure VI. There are two distinct subgroups, each different in occupation. On one side, the skilled and semi-skilled, and on the other side, the unskilled. The technological set-up of the shop, determined by the production process, permits the sub-groups to mix thus establishing an informal interaction between the sub-groups and the supervisor and foreman; although the latter two operate on a more formal level, giving orders and observing the work of both sub-groups. As seen in the figure, there is one other isolated individual; David, whose isolation is a result of his undefined status. David feels superior to his fellow-workers because of his higher education and because he is from Lima. The members of the group don't like his "superior" attitude since all are manual workers. If the rank of an individual is a function of his knowledge and skills, these must be demonstrated by facts and daily actions in order to maintain such a rank. That is what David does. He takes advantage of any occasion to show his knowledge. As an "hombre culto" he usually reads the newspapers and, with a certain amount of pride, comments on national and international news. When an interdepartmental futbol (soccer) championship is organized he tries to show his knowledge of the sport by giving instructions to participants. But, besides these somewhat forced situations, David's interactions with the groups are very limited.

Figure VI

ORGANIZATIONAL SCHEME OF THE SHOP AND WORK GROUP

(Corrugadora)



PRODUCTION PROCESS:

1. The Bobinero places the large paper rolls (bobbins) in position.
2. The Machinists control the feeding process and the operation of the machine.
3. The Gummer keeps the mucilage feed system supplied.
4. The Calderero has charge of maintáining steam pressure, working between the corrugating machine and the boiler.
5. The Planero is a general helper, cleaning the machine, etc.
6. The Receivers guide the corrugated paper to the Accomodators.
7. The Accomodators guide the processed paper on to carts.
8. The Dischargers carry the paper away from the machine.
9. The Volante (one who "flies around") is a general helper.

The sub-group formed by the receivers, planero, and volante, has more mutual interactions due to the nature of their activities and work places. These men have a great flexibility in their actions. Nevertheless, this freedom is controlled by the rules established by the group itself. One of those rules, which has become a tradition, is taking turns or rotating the members through the jobs of receiver, accomodator, and discharger. This rotation is done every hour without a word from the supervisor or foreman. Every working team knows what must be done. The workers have a particular language they use in controlling their work. For example, if one worker seems to be slacking off in his job, another worker might say: "Hey, look! Don't sleep! Caramba, I think you're in love, the girl is driving you nuts." These expressions are said helf in jest and half in seriousness. There is also a kind of mimic communication which can be formal or informal, which can express approval or disapproval, hostility or friendship, depending on the circumstances. This expressive conduct is part of the internal system defined by Homans;[29] the conduct of the group is developed according to the proximity of the workers. This proximity of the workers allows them to develop - as a part of their activities, sentiments, and interactions - a common language giving them a more familiar and intimate relationship. This social conduct, called by Klein[30] "a shared point of reference," includes the nicknames given to the members once they have been accepted as part of the fraternal group. The acceptance of a new member in the group has come to be a ritual process which does not end until the new man has performed the certain requirements set up by the group - loyalty, reliability, etc. These rules are established by the workers who have a "puesto fijo" (fixed post), a status not reached by many of the volantes. Benito, a volante, is in the process of acceptance. The social rules of the group have not yet given his a"pass" as a full member of the fraternity. He must first complete the necessary requirements. José, for example, received his nickname eight months after beginning work in the shop because he was slow to adapt to the rules of the group. Recalling those days he told us:

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[29] Homans, G. C., The Human Group; Harcourt, Brace and World, Inc., New York, 1950.

[30] Klein, Josephine, Studies of a Group; Fondo de Cultura Economica, Mexico, 1961.

> When you are new on the job, everyone wants to give you orders as if you were a 'cholillo' (servant). That embittered me and hurt my Indian pride. I ignored the fact that my fellow-worker treated me as a servant, but it was hard to live in the isolation that they made around me. You might as well do what they ask, because in the end, you will be doing the same to those coming after you.

On the other hand Abner, another group member, became a full member in about three months because of his personal charm and his ability to adapt to the rules.

The importance of nicknames, the first sign of acceptance to the group, seems to be common in most working centers. Dr. Savage found the same importance in his studies in Colombia,[31] and the author also found it in a working center on the coast of Peru.[32]

Routine Working Problems and Social Behavior

Many days seem to pass in the workshop without incident. Men go to their respective posts replacing workers on the previous shift while the machines continue uninterrupted. The quality supervisor looks at the orders to see which types of carton are to be processed during the new shift. The foreman and machinist take control of the machine making the necessary adjustments and, in a few minutes, the whole operation becomes a continual movement of hands and bodies.

Nevertheless, that rhythmic operation is broken fairly frequently when the machine must be stopped to set new paper bobbins, change settings according to the type of sheet being produced, or when the carton sheets have defects such as, bad gluing, wrinkles or lines. Since the incentive system is dependant upon productivity, machine stoppages are disliked by the workers. Therefore the members try to fix the machine as fast as possible. The repairs are made by the Machinist and the foreman, the receivers may intervene, and if the damage is serious, the mechanics take charge. Machine stoppages are one of the opportunities which allow for a greater social interaction of the

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[31] Savage, C. H., Management Behavior in a Developing Economy, Massachusetts Institute of Technology, Cambridge, Massachusetts, 1962.

[32] Soler, Eduardo, op. cit.

workers. They gather together to express their opinions in a direct and simple way. In these gatherings one can hear the views, the satisfaction or dissatisfaction, the expectations and values being expressed by the workers. Here are the author's notes of a typical day.

One Day at the Factory

Wednesday, 3:45 p.m.

All members occupy their respective posts (45 minutes ago they replaced the first shift). The supervisor writes the incentive rates on the blackboard, which also has the comparative record of the production incentives of other shifts. The planero copies some of the information he is interested in on a piece of paper. After regulating the tachometer (speed reader) the foreman notices that one of the carton sheets has an exterior deficiency on it. The calderero checks the machine and the gummer discretely reads the afternoon paper. The first machinist adjusts the starch regulator, while his assistant (second machinist) eats a sandwich from his paper bag. We hear a quiet word of caution "El Pratrullero: (the patrol man), and a few seconds later we see one of the production supervisors coming through the section. The bobinero is busy getting a new bobbin to replace the one on the machine which is almost empty. Sitting on small seats, the receivers take the hot carton sheets. There hands are protected by special double gloves because the sheets come out at such a fast rate, an average speed of 180 feet per minute. After selecting the good carton sheets, the receivers send the sheets to the accomodators, who stand facing one another. They in turn take the sheets and place them in a large pile, letting some of the steam come off. In one extreme of the plant we can see the dischargers talking and pulling a small cart. They are coming to take away the pile of carton sheets. Two huge fans cool off the plant which is very warm near the machine and the carton sheets.

Hugo, one of the dischargers, approaches the author.

- And, Sir, how are you?

- Living, and you?

- Fooling around as they say. It is hot here, isn't it?

- Yes. Has anyone ever been sick from the heat?

- Oof, many! When we leave here sweating, we have to watch the cold air or we are in trouble. Many have got sick in the lungs.

- Maybe its better not to leave sweating?

- Yes, but it is even more dangerous to keep on working after eating. With all the heat, the food ferments and you get stomach aches.

A whistle is heard. It is José calling Hugo to carry the carton sheets. On his way, Hugo makes a small paper ball and he throws it over Tomas' head Tomas makes a funny gesture and his partner, Simon, grasps a piece of carton and pretends to strike an insect that is bothering him. He says:

> There are many "Zancudos" (mosquitos) here; we kill them but there is always one that escapes; there goes one free!

This was refering to Hugo whose nickname is "Zancudo." A sharp bell rings, and the supervisor orders the machinist to stop the machine. The foreman looks into the machine searching for some failure. We notice that the receivers have thrown many defective carton sheets on the floor. The volante starts to pick them up. The planero stands next to the foreman waiting for an order. The Machinists are busy making adjustments on the other side of the machine. While all this is happening, the receivers, accomodators, and dischargers chat and laugh in small groups. The author approaches two of them, Carlos and Daniel, who are reading and commenting about today's news. Carlos appears to be the most knowledgeable of the two and he is diccussing the news with some authority.

- Yes, Daniel, believe what I tell you. The problem of our country is that bureaucracy is holding back our aspirations. The government is ambitious but they don't work. For example, the government has obtained many loans, but where is the money?

- Where is the money you said? Caramba! One must be blind not to realize all the roads, schools, houses, that are being built today.

- Anyway, I believe that the only good government we have had was Benavide's; he put everybody in their right places. Today it is not so. Everyone does what he pleases, because our good President is too easy and the 'big ones,'the politicians, take advantage of him. The government should be strong or it is lost, and thus we are also lost. It is about time that those 'mafiosos' are destroyed. Those people who raise the prices and become rich while others go hungry. They shouldn't be forgiven just because they are powerful.

Carlos is enthusiastic and delighted with the talk. He continues:

Now, anyone wishing to raise prices does it without any trouble and without any consideration. That is the case with the buses. The transport companies are powerful and have well-paid lawyers who make fun of the people, the government, and the police. The problem is that the authorities themselves support those enterprises because these lawyers work for both the companies and the government. They get money from two sides. That's why there aren't any morals.

Tomas, who is eating an orange, gets into the discussion and says with a little sarcasm:

- Caray! You are dealing with high politics.

Carlos replies with the same sarcasm:

- What do the asses know about 'alfajores?'

- They might not know anything about 'alfajores' but at least they eat good oranges. Listen 'chino,' to make out country moral do you know what is necessary? All those who are capable of working must do something worthwhile, not scratch their stomachs or live off of somebody else's work.

Daniel, trying to get into the conversation which had been monopolized before by Carlos, answers:

- That is the pure truth! Here in Lima there are too many 'bums' living off the blood of the peasants, robbing and cheating them with 'lottery' and other things. The people from Lima like the easy life. In my village there was no unemployment. Everyone worked out of necessity and everybody was healthier. Of course, the climate was better too ...

Daniel does not finish his argument because the foreman calls for help. The machine is still stopped. Carlos continues to read the paper in a loud voice. Tomas tells him, "those are the same stories, all you read is novels." Suddenly Carlos stops in the middle of one page and bangs his fist against the table.

- Carajo! This is too much. What they've done in Santo Domingo does not have a name. Just because they have money, the 'gringos' want to dominate the world. They are taking advantage of us and doing what they please. They seem to be after Santo Domingo. They have violated the International Charter. That is why all the countries are against the 'gringos' including the European countries....

His words are interrupted by the noise of the machine. Tomas runs to his post and Carlos does the same after putting the paper under his shirt. The machine starts to feel its power and its speed increases. The first sheets come out defective and the quality supervisor is not satisfied. However, in

a few seconds everything comes back to normal and production meets the standards. Hector, who had been repairing the machine, wipes the sweat off his forehead with the sleeve of his shirt and cleans his dirty hands with a piece of paper from the floor. He regulates the tachometer to the right speed and then slowly goes toward the board to read a notice. The author approaches him.

- Hi there, Maestro! The machine fails with some frequency, doesn't it?

- Oof! It's the same problem every time. Do you know why? Simply because the 'gentleman mechanics' do not fix it well. If you complain they get mad and eventually won't listen to you. That's why we have to fix it ourselves.

- Have you discussed the problem with the supervisors or the mechanics themselves?

- I tell you that I'm tired of complaining. The only thing they say is that they are too busy and the supervisor demands a higher production. That is too much! How can we work like that? But, what can we do? We must keep on fighting.

Hugo and José continue discharging the sheets. Putting on their yellow gloves, they stand next to Carlos and Daniel who have been receivers for an hour. The wall clock shows it is four o'clock in the afternoon. There is a rotation of receivers and accomodators. Hugo and José take the places of Carlos and Daniel, who take the posts of Tomas and Dario who replace Hugo and José. The rotation takes only a few seconds and the machine continues to produce normally. The workers have agreed to rotate positions every hour.

The author continues talking to Hector. Enrique comes and gets into the conversation, nodding his head to what Hector is saying and then giving his own opinion.

- We stop the machines not only for mechanical difficulties but also because of the lack of carts to carry off the finished sheets.

- Ah! That was another thing I forgot to say. We have two carts, but one of them is always damaged because the mechanics never fix it well. We always have these problems - lack of carts, lack of cooperation. It seems incredible that we should stop the machines because there are not enough carts, but we have to make sure that the cartons are not damaged. Besides, the discharger carrying the sheets has difficulty in moving because the 'destajeros' (piece-rate workers) have put the cartons all over the place without bothering with the trouble it causes. It is clear that they do not care because they are 'destajeros' while we are just 'jornaleros,' (day-rate workers).

Enrique continues by saying:

- There is also a lack of wooden platforms. There just aren't enough. The people carrying the cartons can only use the carts and the one platform. The discharging job becomes twice as difficult, and we are forced to stop the machine until the dischargers come back.

- The bosses demand more production. Do you think that that is easy for us? It is impossible!

Carlos, on his way to the restroom, stops a second to hear Hector's last remarks. Carlos seems to be undecided as to whether he should continue his walk or give his opinion. But finally he says:

- The "maestro" is right.

Hector's face shines with pride.

- We can produce more, as much as thay want, but only with the proper facilities. The destajeros must stop blocking our ways. They want to make more money and don't give a damn where they put the sheets. As a result we take longer time in transporting them. What we need is a good coordinator - the Transit Police!

Hugo, who was working next to us, commented:

- Carlos could direct the traffic, he is good enough for that.

And, Carlos answers:

- A 'Sergeant' could do a better job! (Sergeant is Hugo's nickname.)

Hector excuses himself and goes back to watch the machine. Enrique, seated on a small bench, is filling out some forms. When the volante is cleaning the floor, a small stamp drops unnoticed from his pocket. The author picks it up and gives it back to him, glancing at what is written on it.

> San Martin de Porras, advocate of the abandoned and the poor, Doctor of the sick, protector, and gatherer of money.

Emerging Sentiments

We have already pointed out that individuals in a working environment have certain feelings of friendship or hostility, which are based on their particular values and cultural backgrounds. In our working group we shall examine the motives behind these social interactions. From this we should be able to discover what sentiments affect the productivity and the satisfaction or the dissatisfaction of the worker.

A quick glance at the working place only gives a picture of machine and workers trying to obtain a certain level of production. The men and the machine are elements of one effort: productivity. But this is only a superficial picture. We must go deeper into these actions to see the true picture. The circumstances involving social interactions are many: loan of money in an emergency; help in a task; birthday celebrations, baptisms, and weddings; donations to help a sick worker or a worker who has lost a relative; sport competition to defend the "good name of the section;" resistance or acceptance of a new working system introduced by the company; etc. Each one of these circumstances can divide the workers into sub-groups, and from these isolate an individual. At the same time, the workers may join together in areas of common interest. Figure VII shows this development in our work group.

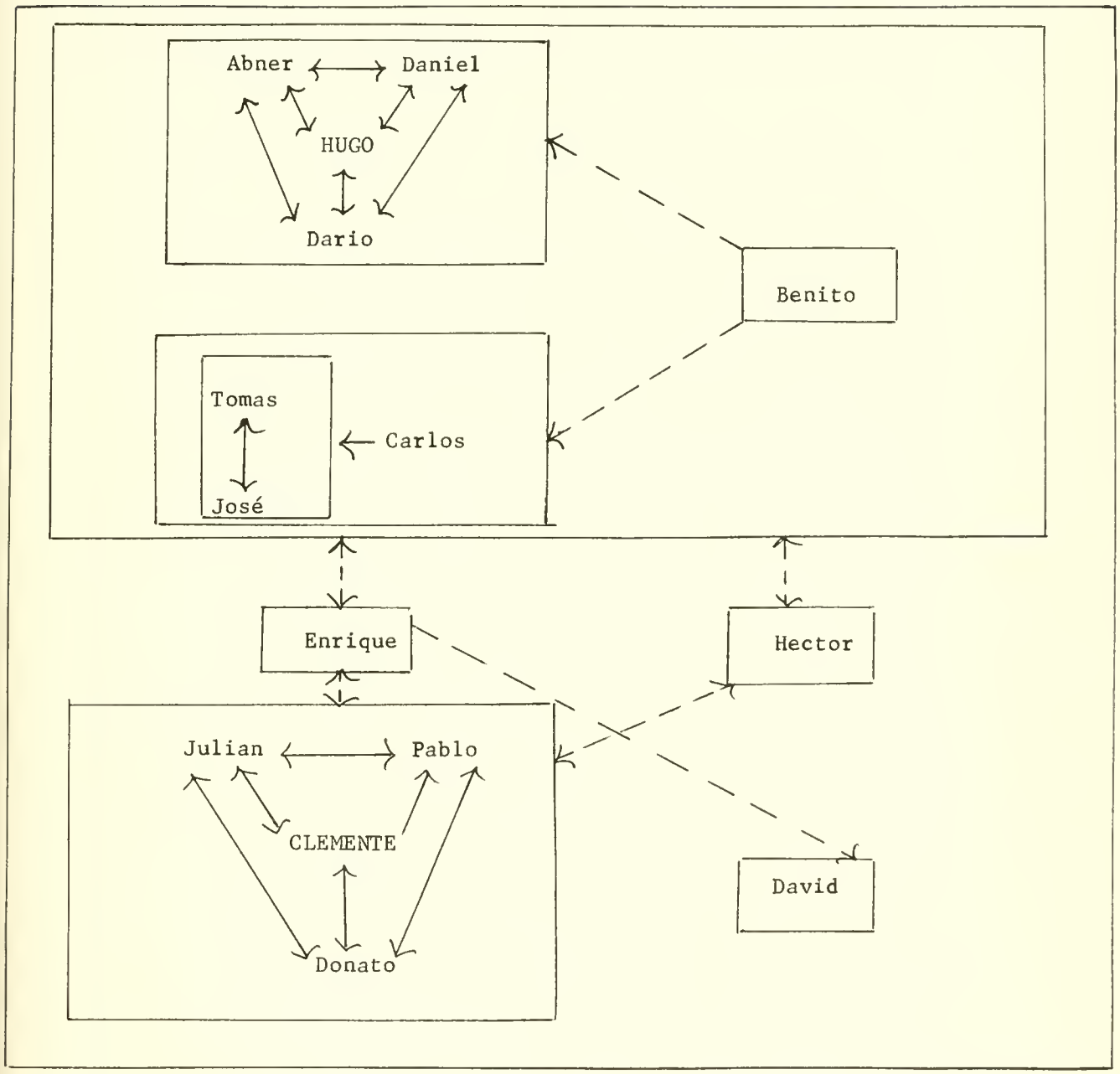
Among the receivers, Hugo is the center of the social interactions. He is the man who starts the conversations, tells the jokes, whistles, screams, and nicknames his fellow workers. As a group delegate he represents the section in the labor organization.

Hugo, Abner, Daniel and Dario, who average about 25 years old, have formed one definite sub-group which we will call the "jovenes" (young ones) and they maintain a mutual close friendship. Tomas, José and Carlos, who average about 41 years old, are another sub-group which we will call the "viejos" (old ones). The interests of the viejos differ from those of the jovenes. The closeness within the sub-groups is reflected in their social behavior, such as birthday parties, where only the members of the particular sub-group are invited. Abner told us, "for my birthday I do not invite the viejos because they belong to another generation; we do not enjoy the things they do; we want to be with people our own age." Benito, the volante, in spite of his youth, is rejected by the jovenes because he is in the process of adapting to the group and the group rules.

Among the viejos Tomas and José have a close mutual friendship; they help each other in their jobs and stick together during the rest periods. Carlos, the oldest of the group - 51 years old, stays in a neutral position, and even though he is included with Tomas and José, his friendship with them is not too close. Carlos appears to have more experience due to his age and he is usually bothered by the behavior of his "compañeros."

Figure VII.

SYSTEM OF INTERACTIONS OF THE WORKING GROUP



> There is no understanding now. I do not feel satisfied with them anymore. We see too much envy and rivalry. But I am always the same, I do not hate anybody, I do not pay attention to them....

Carlos has learned how to survive, due to his job, with different kinds of people. Carlos thinks that he is superior to the other workers because of his speciality that he does not practice.

> I have a profession. I am a master pipe-fitter of water pipes. Some time ago I wanted to work in my speciality, but the pay was only four miserable pesos. I told them to go to hell. It was not fair of them to offer me a salary of hunger. I would rather work selling newspapers - that's exactly what I did. I had two posts where I distributed the papers on consignment, but in our country a lot of people are without shame, and they did not pay for the newspapers. That is why I left that business and came here to work as a receiver. I work at anything; no job is a problem for me. I believe that the man who does not make anything is lost. He is consumed by his own laziness and soon becomes sick. Our body is made to be active.

Carlos is a professional Maestro Tubero but he does not practice because his profession is not well paid, which frustrates him. He is not satisfied working as a simple worker with younger and less experienced people; however, he is a realist and tries to adapt himself to his fellow-workers and carry his frustration as best as possible. Thus, he is relatively isolated. This isolation is not as bad as was David's, which we mentioned before.

Among the skilled and semi-skilled personnel Clemente is the center of the social group, which includes Julian, Donato, and Pablo, not so much for his "visibility," but for his personal charm and position. His charm extends beyond the group to his relationship with the mechanics. One of the mechanics and Clemente have a "compadre" relationship, promoted by Clemente so that he could use his "compadre's" car. Clemente uses the car during his free hours as a "taxi." This type of relationship, of mutual help, is common among the rest of the working group also. When Tomas went to the hospital with a "bad liver," Clemente suggested a "collection" to help the sick compañero with the family expenses. The suggestion was well received by the whole section and the voluntary fund was made. This form of mutual help is one more reason for the strong fraternal relationships among the workers.

The normal procedure in such cases is a suggestion from a higher status member and then a collection taken by the best friend of the affected member. Hence, Clemente appears as the leader of the group, because his status is higher than that of Hugo, and Hugo's importance in only in one sub-group.

It was mentioned earlier that the physical locations of the posts promotes and strengthens the social interactions of the workers. The unskilled workers, for instance, are located at one extreme of the machine and the skilled and semi-skilled at the other extreme (see Figure 6). Although David is near the latter group, he has made his post an "oasis" to maintain his voluntary isolation. David's work status, as we have pointed out, is inconsistent because of his better education and his city origin. He feels a certain amount of superiority over the country-born workers. When the "good name" of the section is to be maintained, however, David does not hesitate to help. This type of loyalty can be observed in the inter-sectional competition of "futbolito" (soccer with a small ball). The powerful team of the Corrugadora, made up of the personnel of all three shifts, had been the champion for four consecutive years. In 1964 the Conversion plant, a younger group of men, took the title from them. The group's aspiration is, of course, to win the title again and get the "cup" back. Hugo, who plays on the team, told us:

> You should have seen how good we were. When we took off, nobody could stop us. We scored goals like peanuts, and that's why we were champions for so many years. We have trophies all over the place. Last year was a bad year. We lost the championship. Two of our best players went to another section and our pride would not let us plead with them to come back. So those bandits from the Conversion plant sharpened up their team and won the title from us. Caray! But this year we'll knock the stuffings out of them. You'll see!

The game of futbolito is similar to that of soccer, although it has a few special regulations. The field is smaller, the passes are short, each team has only six players, and instead of soccer shoes they wear sneakers. David has the most knowledge about the rules of the game and he was therefore elected as a representative of the section.

Although Hector is in the same social category of the other members, he maintains a rather formal relationship with the group. His position is

higher in occupational status, however, when the section needs defending he is already to lend a hand. Enrique, who has an "empleado" status, maintains a neutral position particularly in section competition. As a link in the administrative chain and at the same time directly related with the workers, he tries to maintain his neutrality. He is consistent in his attitude towards the directive personnel and the workers. "If you do not know how to get along with people, you won't get their cooperation," explains Enrique, referring to his policy of neutrality.

There is a strong spirit of unity in the group as a whole, in spite of the differences between its members, the existance of sub-groups, and the neutral and isolated individuals.

Diagnosis of a Labor Conflict

A fact illustrating the unity of the group, and which is based on technological change, is the protest walk-out. A few months before the author started this study there was such a walk-out. The quality of the carton boxes produced was not meeting the customer's demands. The administration had made efforts to iron out the technical deficiencies and the problems of the workers. The Corrugadora needed special mechanical adjustments so that it could run at a faster speed and this was achieved in time. With the increased production, it was assumed that the operators would receive a higher production incentive. But, since the three shifts still produced at only 60 percent of the maximum velocity, they did not receive a higher incentive. The situation was at a standstill until the workers decreed a 24-hour walk-out. Why was there a resistance of the workers to increase the speed of the machine? Were the production incentives not enough to get the optimum performance of the worker? Let us examine the course of events, and the relevant factors involved in the conflict.

Events Leading to the Walk-out

When it started to produce in 1941, the boxes plant operated with the old German Corrugadora. The new machine was introduced in 1951 and slowly the accessories such as the special "cutter" were added. It was not until 1963 that the Baker heating system was installed. The machine had technical adjustments to increase the pressure and therefore the speed in 1964. With

the improvements on the machine and with a continuous increase in the demand for the product, the administration asked the heads of the plant and the supervisor to produce at the desired maximum capacity. The problem of the Corrugadora was taken up by the administration, the board of directors, the stockholders, and the high staff personnel. But the problem was not solved. It was more serious than expected. Under normal conditions the machine could run at an average speed of 260-270 feet per minute; however, productivity was low and the average speed was only around 170 feed per minute. The machine was operating at the high speed only when the engineers or other bosses were present to check its performance. Once they left the speed would automatically decrease even though the foreman and the quality supervisor were always present. When the heads demanded explanation of this, the operators always found some kind of "legal excuse" such as; excessive speed meant bad quality, or the receivers started to feel physically bad because of the speed of their movements.

There were two categories of workers: unskilled (receivers, planero, and volante) and semi-skilled and skilled (machinists, calderero, bobinero and gummer). They worked in two twelve hour shifts, having four hours overtime every day. The basic pay rate of the skilled and unskilled was at a proportion of 3 to 1. The latter group, however, was involved with physical movements in receiving the carton sheets and taking them away.

For the last three years there was a production incentive system paying 36 Peruvian cents per 1000 meters of corrugated sheet. The operations of this system and the piece-rate system of the other sections apparently were not fully understood by all the workers. The jornalero felt cheated by the incentive plan. Even though the piece-rate system of the destajero demanded the maximum performance of the worker, the jornalero felt that the incentive was "nothing given to us over our base pay."

In addition, an engineer who had previously worked in the factory was appointed as the factory superintendent. His new position was, however, unknown to most of the workers. Therefore when he demanded that the speed of the machine be maintained at the desired level, the workers thought he was going over his level of authority and complained to their labor organization.

The union leaders came into the "arena" when persuaded by the representatives and workers of the section. The problem was evaluated from the point of view of the worker and they reached the conclusion that injustices were being committed against the Corrugadora personnel. They were especially bothered because the firm did not ask for the workers opinion in deciding to increase production. One union officer commented on the problem:

> The big shots wanted the workers to speed up the machine but nobody told us a thing about it. I believe that the union leaders deserve some consideration and need to be informed of decisions affecting the workers. That is why there is a union. But nobody said anything so we ignored the position of the administration. One can see the lack of organization.....

As a result the resistance of the operators, supported by their union leaders, became a force as powerful as management itself and thus created a definite conflict. The management reasoned that it was a custom of the firm to adopt policies without consulting "the working man about it."

The problem was discussed by the management and two union officers, taking up the pros and cons of both arguments. No one agreed, and, worse, the conflict became more hostile. This hostility broke up the peaceful discussions and the union leaders threatened"to take appropriate measures for the workers," if the administration did not give up their position. Likewise a similar attitude was expressed by the administration. The attitude of the administration was considered unreasonable by the the union leaders, who proceded to arrange a 24-hour walk-out protest.

Initially, the union officers agreed to limit the walk-out to the boxes plant only, and not the conversion plant. The heads of the firm, however, trying to avoid future friction between the two working plants, said that if anybody stopped work, everyone else would also stop.

The protest walk-out occurred without major incident. The police were informed of the walk-out and they kept all in order.

After the walk-out, the group continued to produce at the same old rate. The receivers signed a petition to work only eight hours as the law had established and asked that their overtime pay, which would hence be lost, be included in their new base pay. The petition was accepted and the incident

caused a revision in the incentive system in order to increase production. Forty-eight Peruvian cents would be the new rate. The tension diminished and the modification was accepted by the workers. Production increased 15 percent in a short period of time.

The Easter lunch that the company offers to the workers was scheduled for a few days after the walk-out, in spite of the uncertainty of the workers' reaction to it after the recent conflict. The lunch, however, turned out to be a great social affair, because it was an opportunity for the workers and the administration to fraternize outside of the work environment. The lunch also became a reason to assess their attitudes toward the labor conflict and had a positive function as "a mechanism in adjusting to the new situation."[33]

The introduction of the incentive system in the section was made to increase the productivity rate and was paralleled with an economic remuneration to the workers. The system, however was misunderstood, and taken to be merely a bonus for working in the main machine section of the factory. On the other hand, the piece-rate system, which was used in the other sections, was more familiar to our workers because of the greater benefits which the destajeros received and because of the fact that the destajeros had greater prestige among the workers.

The acceptance or resistance to any technological change is a function of the motivation which it in turn produces. Hence, the acceptance of the new production rate of the machine was not due to an enforced order but rather to the way the worker was convinced of the advantages the change would give him. The worker was asked to work harder and did so only when it was to his advantage to do so. The union leaders were not interested in the actual policy, but had felt slighted when they were not consulted. They felt that they should have been "informed of matters affecting the workers. This was a simple problem of communication, the lack of which caused the request for increased production by the administration to be distorted by the imagination

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[33] C. A. Lewis, The Functions of a Social Conflict, Fondo de Culture Economica, Mexico, 1961.

of the workers. Also connected with this lack of communication is the situation of the engineer who was acting with an authority the workers did not know he had, thus causing an adverse reaction to his orders. The same order given by a person of known authority probably would have been accepted without hesitation. The conflict, then, was really due to a lack of communication and not production incentives. Even after the conflict had been settled, there was still a mistrust of the engineer.

> After the walk-out there were rumors that the management would not have the Easter lunch which had become a tradition. The engineer was blamed because the workers thought that he wanted to pay them back for the walk-out. But the lunch was given and it was better than ever. Everyone happily toasted the engineer who had turned out to be a 'good guy.'

The informality of the gathering loosened the tension and vertical and horizontal social interaction was resumed. One other incident, which promoted the mutual understanding and recognition of the engineers authority occurred after the futbolito championship. The champions named him "Godfather" of the trophy. This was another step toward better interpersonnel relationships. These attitude adjustments are a function of the social conflict which"turned the workers' motives toward making the social and industrial machinery run."[34]

> A strike or a walk-out, which is the worker's last weapon, is won and lost at the same time. The worker loses his pay during the non-working days but, on the other hand, he demonstrates his strength. Another advantage is that the engineer is now a gentleman and is accepted as a superintendent. The people from the Corrugadora have also gained in benefits from the whole thing.

We are concinced that in an industry of dynamic orientation, the work must be done by a team which includes every single worker. In order for this to happen, every one must be conscious of what is being done or going to be done. This also implies an attitude of mutual respect which must result from the dychotomy of productivity and satisfaction which are elements of the same process.

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[34]Eduardo Soler, op. cit.

Conclusions

The study which was made of the behavior of the labor and administration in a metropolitan manufacturing industry allows us to establish certain relevant facts which have emerged from the dynamic and complex industrial process that Peru is now experiencing.

As a result of the continuous and rapidly moving technological changes - introduction of new instruments and machines, salary and work systems, production and distribution methods, administrative organization, etc. - the human element involved has become a problem of major importance. This problem is divided into six areas of concern: 1) the workers inability to adapt to the fast rate of the changes (both white and blue collar workers), 2) the scarcity of technically capable personnel, 3) the differences in the administrator's and the worker's goals and values, 4) the unorganized and undefined delegation of functions and responsibilities, 5) the insufficient channels of vertical communication between superiors and subordinates, and 6) the lack of effectiveness in selling new ideas.

Changes in any system alone will alter the normal work production because of the impact of the change on the worker involved. The industrial worker interprets these changes as a threat and his reaction, therefore, is a defensive one. The entrepreneurial policy is made up of "principles" which offer a limited adaptive flexibility to the authorities. Authority is achieved through mutual understanding and consideration. The introduction of new technological elements and the re-orientation of the existing system must go hand in hand with sufficient worker motivation.

The lack of technical knowledge of the industrial worker makes on-the-job training necessary in order to achieve the needed qualifications. On-the-job training will help to promote the older workers, and in this way avoid resentment in being left behind. The "National Service for Training for Industrial Work" instructs the worker in many of the necessary technical skills,[35] but it is still the supervisor who plays the decisive role. It is the supervisor who continues the instruction in the factory and helps the personnel adjust to new technological changes.

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[35] Fernando Romero, Education as an Economic Agent, SENATI, Lima, Peru, 1963.

It has been established that the directive personnel, as well as the workers, have their own expectations and values which as yet do not coincide. The worker finds the greatest satisfaction in the informal level of his interactions while the directive personnel is interested in maximum efficiency and production in the minimum amount of time. The activity of this enterprise, limited to work production, affects the managers and their attitude towards the workers. They feel they have no time for the social aspects. This lack of time can be frustrating and from it working problems can arise. A lack of consideration for the workers causes problems; problems which result in slowing down production until they are solved. "Directive paternalism" tends to retard the creative potential of the worker and makes him keep what might be valuable ideas to himself. This in turn slows down production.

Finally, there is a need for periodical adjustments in the firm's policies by the entrepreneurs. This evaluation must take into consideration the delegation of functions and responsibilities, the adaptive behavior of the group to new technology, and the opinions of the union leaders to the problems of the workers. This periodical evaluation of policy should not limit the promotion of other outside activities (social events, sports, etc.). These activities are important ways of improving the social and work interactions of the group and the individuals, superiors and subordinates. Those interactions break the barriers which limit mutual understanding and they soften the tensions created by automation. The effects of these interactions are reflected in productivity improvements.

In this light, then, the key to the work problem is communication. Communication which can be understood by all and which is not the abrupt or impersonal manner so common in industry.

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